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ORIGINAL ARTICLES

ARE "ALCOHOL DEATHS" DUE TO ALCOHOL?*

BY GEORGE H. BIGELOW, M.D.

THERE has been a very general increase in deaths attributed to alcoholism since 1920. (Chart I.) This has been variously explained, some of the explanations seemingly being dictated by reason and some by emotion. The most commonly accepted perhaps is that expressed in a recent article from the Statistical Division of the Metropolitan Life Insurance Company:** "The rising alcoholism deathrate in this country since 1920 cannot, in our judgment, be explained by increased consumption of 'hard' liquor as compared with wartime and pre-wartime years. The reason must lie, we think, in the greater toxicity of the alcoholic liquors which are now used so generally throughout the country."

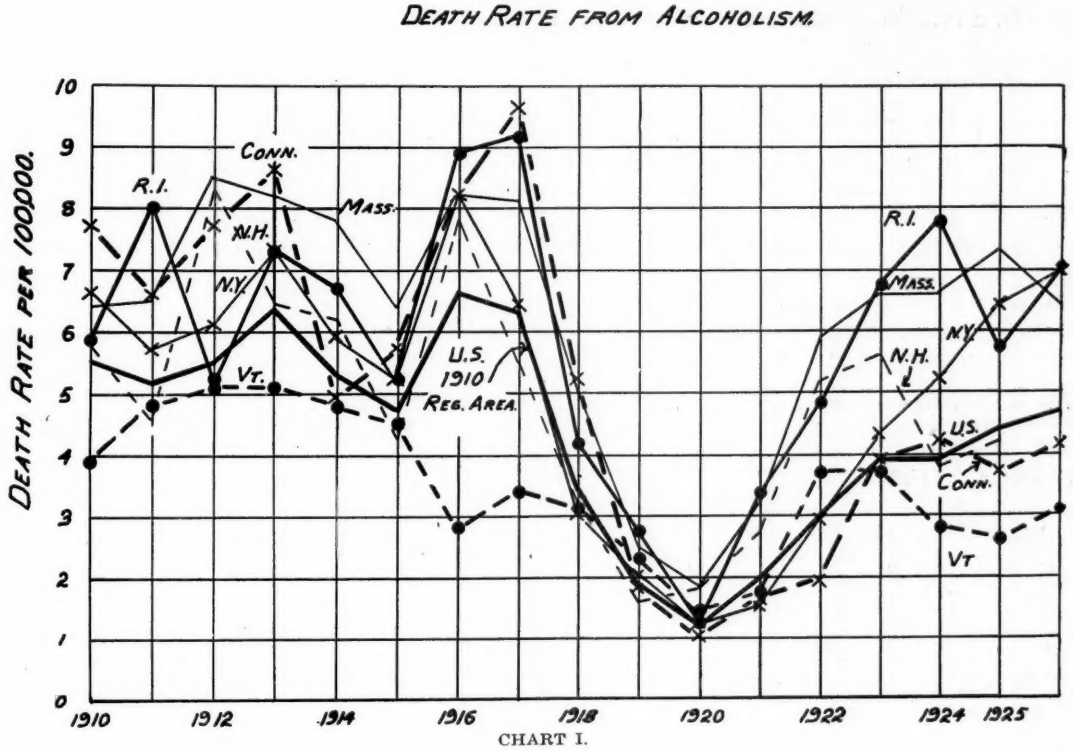


CHART I.

If this is the case we would expect that our laboratory analyses of a number of thousand samples of liquor annually would show an increase in extraneous toxic substance since 1920. No such increase has been found as noted in the following report. But it is at least theoretically possible that with the methods used for preparation of illicit liquor and the multiple substances from which it is prepared, there might be introduced a new substance or combination of substances not detected in our routine chemical analysis but which might be highly toxic. Animal feeding experiments would detect this. Money was obtained from the Delamar Mobile Research Fund at the Harvard Medical School, and Dr. Reid Hunt with the assistance of Mr. H. W. George tested the toxicity of one hundred samples brought into the laboratory of the Department of Public Health by the police. His report is appended as well as a summary of the Department's work on this matter by Hermann C. Lythgoe, Director of the Division of Food and Drugs.

It is no part of the function of a health de-

*For record and address of author see "This Week's Issue," page 255.

** "The Rise in Deaths from Alcoholism among American Wage-earners since Prohibition", Statistical Bulletin, Metropolitan Life Insurance Co., Vol. VIII, March, 1927, No. 3.

partment to enter into the moral, legal or political aspects of the prohibition question except that we are quite improperly required by law to analyze thousands of specimens for the courts annually. But if there is a toxic substance in this liquor which comes from all parts of the State and which may and does kill, we are derelict if we do not so inform the public. The results of chemical and pharmacological examination suggest that as far as Massachusetts is concerned such factors as wood alcohol, methanol, furfural, and other extraneous substances have been very much exaggerated, and what is killing people now who die of alcoholism is what killed them back in the days of the high alcoholic death rates of 1916 and 1917 and before, namely, ethyl alcohol, "grain" alcohol, or "good pure" alcohol.

But this ethyl alcohol was also toxic in 1920 and why the increase in death rate since then? Perhaps in a certain group of the population, at least, the drinking habits have materially altered. With the illegality and uncertainty of the supply there has been a tendency to "drink it while you've got it" so that a given quantity may more frequently be consumed in a shorter period of time, thus increasing the acute intoxication and deaths. Again, with the general practice of having the bootlegged liquor analyzed there may be a certain tendency to feel that when nothing more toxic than ethyl alcohol is found the product can be consumed with impunity. Also these studies would show as far as Massachusetts at least is concerned how groundless, in general, is the resentment against the enforcement agencies of the government for poisoning the liquor supply. Ethyl alcohol, then, is, has been, and always will be a poison which cannot be tolerated by the body in excess, and in the vast majority of cases "alcohol deaths" in Massachusetts are apparently due to excessive use of "good pure alcohol".

THE CHARACTER OF THE ILLICIT LIQUOR UPON THE MASSACHUSETTS MARKET*

BY HERMANN C. LYTHGOE, S.B.

THE Massachusetts Department of Public Health is in the unique position of being able to obtain information as to the character of the illicit liquor upon the market because of the law which requires the Department to examine samples of liquor submitted by Police authorities for the purpose of determining the per cent. of alcohol therein. This work was transferred to the Department in 1902, and the number of samples submitted varied from 100 to 200 per annum during the first seventeen years. In July, 1919, the number of such samples suddenly increased to 688 in that one month, and the number submitted at present varies from 8,600 to 9,400 per annum. During the 1927 fiscal year, there were submitted 8,815 such samples which were classified as follows: beer, 1929; cider, 84; distilled spirits, 4,529; flavoring extracts, 8; alcohol, 935; and miscellaneous, 421 samples.

The distilled spirits referred to included, in the order of quantitative occurrence, an occasional sample of aged liquor; more samples of the blended variety so common in pre-prohibition days; a few more samples of "moonshine" or unaged, uncolored liquor; considerable diluted and colored alcohol; and straight diluted alcohol. The alcohol in most of this material, as well as the alcohol submitted as such, was either pure U. S. P. alcohol or alcohol recovered from completely or specially denatured alcohol. The recovered material may, and often does, carry traces of odors derived from the raw material from which it was made, and in some instances this recovered alcohol may carry a small amount of methanol.

Methanol suddenly appeared in illegal liquor in June, 1926, about five per cent. of the distilled liquor submitted during the next few months containing methanol in quantities varying from 1.6% to 8.02% with an average of 3.91%. One isolated sample responsible for a death contained 23% of methanol. We were unable to obtain any data as to injurious effects of the spasmodic or continuous consumption of the material containing the low percentages of methanol. During 1926, we received 8,667 samples of which only 15 contained any methanol, four of which were classified as distilled spirits; and 11 as alcohol. The amount of such liquor decreased during 1927 when there were submitted 8,815 samples of which 8 contained methanol in quantities varying from 1.1% up to 2.2% in samples containing from 24 to 30% alcohol; and in quantities varying from 2.8% up to 6% in samples containing more than 80% alcohol. This does not include samples of completely denatured alcohol, the character of which was evident from the sense of smell.

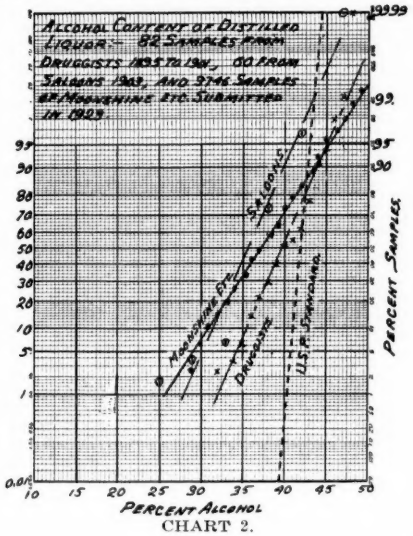
Many samples said to have caused death were given careful examination to ascertain the presence of any toxic substance other than alcohol. In all but one of these cases no such toxic substances were found. In two of these instances pharmacological examinations were made disclosing the presence of nothing more toxic than ethyl alcohol. One sample causing death was

*For record and address of author see "This Week's Issue," page 255.

the one found to contain 23% of methanol. This sample was not subject to pharmacological examination, but the responsibility for the death must be placed upon the methanol.

The chemical examination of distilled spirits now on the market indicates extensive adulteration in the cause of temperance. This form of adulteration was fairly common in pre-prohibition days, but is becoming more common at present. Distilled liquor was popularly supposed to be 100 proof, that is, to contain 50% alcohol; although the preference was for the blended whiskey of 90 proof, or 43% alcohol. It formerly was, and now is popularly stated by persons not familiar with the toxicology of alcohol, that if one could only get hold of pure whiskey, the trouble caused by its ingestion would be entirely eliminated.

Between 1895 and 1901, the Massachusetts Department of Public Health obtained from drug stores eighty-two samples of whiskey all of


ALCOHOL CONTENT OF DISTILLED LIQUOR - 82 SAMPLES FROM DRUGGISTS 1895 TO 1901, 60 FROM SALOONS 1903, AND 9746 SAMPLES OF MOONSHINE ETC. SUBMITTED IN 1923
SALOONS
MOONSHINE
DRUGGISTS
U.S.P. STANDARD
PERCENT ALCOHOL
PERCENT SAMPLES
CHART 2.

which were supposed to conform to the requirements of the United States Pharmacopeia; but 29.3% contained less, and 8.5% contained more alcohol than was so prescribed.

In 1904 the Police Commissioner of Boston submitted sixty samples of whiskey, four samples from each of the fifteen police stations, representing one sample from a high-grade saloon, one from a low-grade saloon, and two from saloons of intervening grades. The analyses disclosed the fact that the worst ingredient from the health standpoint was ethyl alcohol, and that the most extensive adulterant was water. Of these samples, sixty-seven per cent. contained added water; forty per cent. to an extent of 9.5% or more; twenty per cent. to an extent of 25% or more; and seven per cent. to an extent of 30% or more. Chart 2 on probability arithmetic scales, and Chart 3 on arithmetic scales show the results of the examination of these samples together, in Chart 2, with the U. S. P. standard.

The character of distilled spirits has changed considerably in the past seven years. Chart 4 shows the result of the analysis of 2,264 samples collected in 1921, and 4,116 samples collected in 1927; the alcohol content of which varied between 25 and 50%. The average alcohol of both series was very nearly the same, namely, 36.34% in the case of the samples collected in 1921 and 36.32% in the case of samples collected in 1927: but the 1927 samples show a relatively higher percentage of samples between 24 and 35% alcohol and a relatively lower percentage of samples between 35 and 50% as compared with the 1921 samples.

It is a well-known fact that when distilled spirits are permitted to age in charred oak barrels, there is an increase in secondary bodies

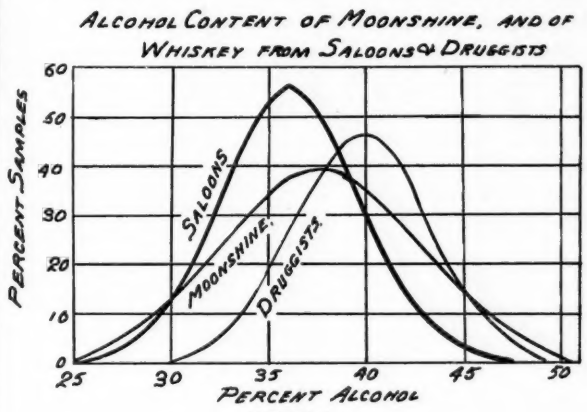


CHART 3.

which are slightly more toxic than is alcohol. The work of Crampton and Tolman* showed that during an ageing period of eight years, the fusel oil increased 40 to 70%; the aldehydes increased 200 to 300%; the furfural increased 150 to 250%; the acids increased 700 to 1,800%; and the esters increased 250 to 450%. The increase in fusel oil is due solely to evaporation; the extract is obtained from the barrel, and the increase in other ingredients is due to chemical compounds produced from the alcohols by the ageing process. The greatest increase in secondary bodies occurs during the first year. In an aged whiskey there is about 99.4% of alcohol and water; the other 0.6% consists of 0.26% of solids extracted from the barrel, and 0.34% of fusel oil, aldehydes, acids, esters and furfural.

The question of the relative toxicity of alcoholic beverages was studied by Whitney† who found by experiments upon rotifera, that based upon the same alcoholic content, the toxicity of intoxicating liquors decreased in the following order: cider, wine, beer, aged whiskey, blended whiskey, alcohol; that is to say, a 6% alcohol solution made from pure alcohol was less toxic than a 6% alcohol solution made from a bottled in bond whiskey.

The samples submitted to Dr. Hunt for phar-

*Jour. Am. Chem. Soc., 1908, p. 68.
†Science Vol. 33, April 14, 1911.

macological examination, and reported upon in the following article, were representative of the material received from police departments during the months of July, August, and September, 1927. Those submitted during July were of higher alcoholic content than those submitted later, which change was due to a report received in August that successful pharmacological tests could be made on lower concentrations. The bottled in bond sample had been in my office for twenty years. When opened in August, 1927 for the purpose of analysis, it was found to be 100 proof and to contain 50% alcohol by volume. When this investigation was first considered, it was the intention of the Department to have no pharmacological tests made upon samples containing any methanol; but it was subsequently deemed advisable to do so. Apart from the possible presence of methanol, the laboratory examinations showed that the samples contained nothing more toxic than alcohol and water with the usual cogeneric byproducts of the process of manufacture and were on the average less dangerous than preprohibition liquor.

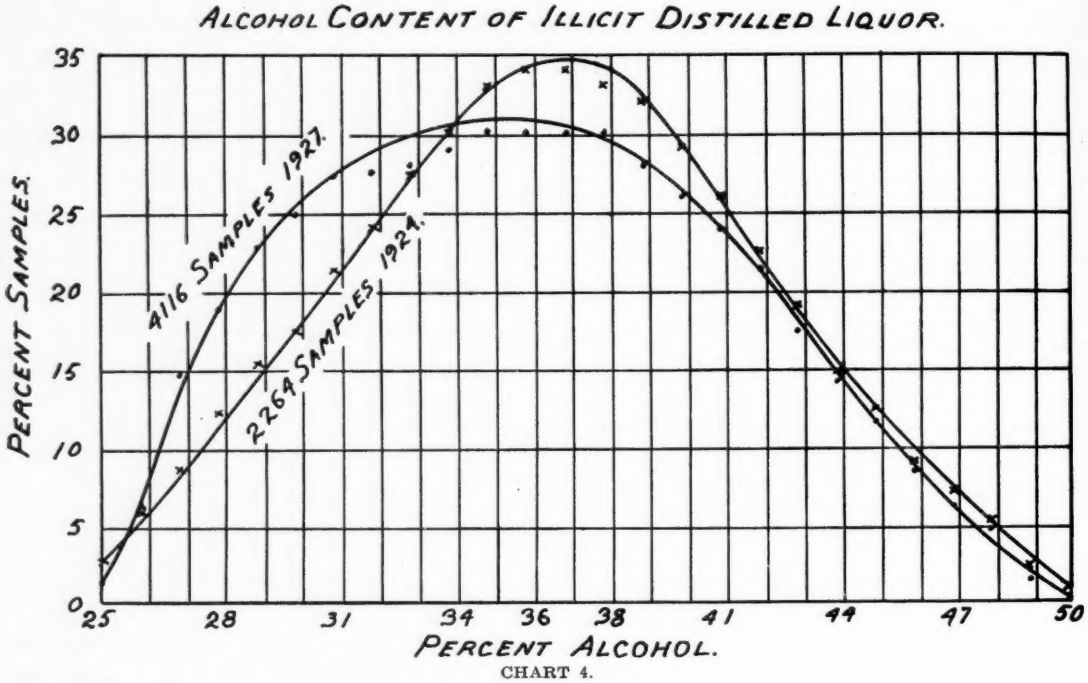


CHART 4.

AN EXAMINATION OF THE TOXICITY OF ONE HUNDRED SAMPLES OF ILLICIT LIQUOR*

BY REID HUNT, M.D.

THE SAMPLES SUBMITTED BY MR. LYTHGOE CONTAINED THE FOLLOWING AMOUNTS OF ALCOHOL (GM. PER 100 CC.)

Number of Samples	Gm. per 100 cc.
7	24.2 to 25
29	25 to 30
22	30 to 35
24	35 to 40
18	40 to 41

EXPERIMENTS were planned to test the acute, semi-acute, and chronic effects of the samples upon several species of animals. The results were compared with the effects of dilutions of pure ethyl alcohol of the same strength and with a sample of bottled-in-bond whisky meeting the requirements of the United States Pharmacopeia and with a popular "blended whisky".

The preliminary experiments were performed upon mice. For this purpose the samples were diluted with normal saline solution so that each cc. contained 0.2 gm. of alcohol; the injections were made intravenously at definite and uniform rates. A dilution of pure ethyl alcohol of this strength injected at the rate of 0.01 cc. per second invariably caused immediate death when 0.015 cc. per gm. mouse was injected; 0.014 cc. per gm. very rarely and 0.013 cc. never caused death. On the other hand if the injections were made at the rate of 0.002 cc. per second, doses of 0.027 and usually of 0.03 cc. per gm. mouse were tolerated. These relations between the fatal and the tolerated doses and the rates of injection proved to be a useful means of distinguishing a solution of ethyl alcohol from solutions containing substances either more or less acutely toxic than the alcohol. Thus a solution of methyl alcohol of this strength (i. e. 1cc. containing 0.2 gm.) was tolerated in a dose of 0.04 cc. per gm. even when injected rapidly.

*For record and address of author see "This Week's Issue," page 255.

If only 2 per cent. of the ethyl alcohol were replaced by methyl alcohol, the acute toxicity was very plainly and constantly diminished: the rapid injection of doses of 0.017 cc. per gm. of such mixtures were never fatal, those 0.0175 sometimes and those of 0.018 always fatal. The liquor samples were tested by number and without my knowing the result of the analyses; when methyl alcohol was present to the extent of from 1 to 2.4 per cent., I detected it by this method. The blended whisky when tested in this way had exactly the toxicity of a dilution of alcohol of the same strength whereas the "genuine", bottled-in-bond whisky was slightly more toxic than the blended whisky or a dilution of alcohol of the same strength.

All of the samples were administered to albino rats by the stomach tube in doses containing the maximum tolerated quantity of ethyl alcohol; the presence of any substance more toxic than the alcohol was readily detected in this manner. The rat is an especially suitable animal for such tests for it has a relatively high resistance to ethyl alcohol and a rather low degree of resistance to some other poisons. The alcohol was administered to the rats in the form of a solution 1 cc. of which contained 0.4 gm. of alcohol or in doses containing the equivalent of this. It was found that rats would invariably tolerate three doses of 21 cc. per kilo of this dilution given on successive days. These results were in sharp contrast with those obtained with methyl alcohol. The immediate toxicity of methyl alcohol is, as is well known, less than that of ethyl alcohol; thus rats usually died from single doses of 26 cc. of the ethyl alcohol solution but survived single doses of 29 cc. per kilo body weight of a solution of methyl alcohol of the same concentration; they died however from two doses of 21 cc. per kilo of methyl alcohol given at intervals of 48 hours, from two doses of 17 cc. per kilo given at an interval of 24 hours and from 3 doses of 10 to 13 cc. and from 6 to 8 doses of 6 to 8 cc. given at such intervals. It was also found that solutions in which a part of the ethyl alcohol was replaced by an equal amount of methyl alcohol were tolerated in larger single doses than was ethyl alcohol alone; thus whereas rats died from 26 cc. of the solution of pure ethyl alcohol they survived doses of 31 cc. of a solution in which 10 per cent. of the ethyl alcohol was replaced by an equal amount of methyl alcohol and survived 34 cc. when 20 per cent. of the ethyl alcohol was replaced by methyl alcohol. If a small part of the ethyl alcohol was replaced by methyl alcohol, the preparation was less toxic in both acute and chronic experiments than were the preparations containing only ethyl alcohol: the presence of the methyl alcohol lowered the acute effects (by diminishing the amount of ethyl alcohol) but such amounts of methyl alcohol were not sufficient to have a cumulative toxic action. Some of the samples of liquor were of this character: in proportion to the total alcohol content they were the least toxic of all the samples tested and less toxic than the samples containing all the alcohol as ethyl alcohol. They were less toxic than the samples of whisky.

The samples were also tested upon cats and the effects upon the blood pressure and heart rate determined. For this purpose the alcohol was injected intravenously at a definite rapid rate; equal amounts of alcohol of the same concentration were injected in all cases as controls. The resulting curves of the effects upon the heart rate and blood pressure were identical with all of the samples and corresponded exactly with the effects of an equal amount of pure ethyl alcohol in the same dilution.

Each sample was diluted with water so that 100 cc. contained 5 gm. of alcohol and these solutions served as the only source of water for groups of mice for periods of from three to five weeks. There were a few deaths among the mice in these experiments but no more than among mice which received the same diet and pure water. In no case did more than one mouse of a given group die and in all cases the survivors continued to grow and gain weight.

The results obtained by these various tests were uniform; they may be summarized in the following table in which the maximum dose of ethyl alcohol tolerated is represented by the arbitrary figure of 100.

8	samples	were	tolerated	in	doses	of	150-160
4	"	"	"	"	"	"	140-149
28	"	"	"	"	"	"	130-139
8	"	"	"	"	"	"	120-129
19	"	"	"	"	"	"	110-119
18	"	"	"	"	"	"	101-109
11	"	"	"	"	"	"	100
4	"	"	"	"	"	"	95-99

Thus of these 100 samples 85 were less toxic than an aqueous solution containing the amount of alcohol (40 gm. in 100 cc.) contained in the sample of "genuine" whisky submitted; 11 samples had the same toxicity as this preparation and four were slightly more toxic. (Of these four samples one was the genuine whisky itself and two of the other three samples contained 40.85 gm. alcohol in 100 cc. and another 40.69 gm. alcohol in 100 cc. as compared with 40.02 gm. in the whisky. Thus the slightly greater toxicity of three of the samples were satisfactorily explained by the slightly greater amount of ethyl alcohol.)

It should be emphasized at once that the above figures are based upon the results of the administration of the samples irrespective of the alcohol content; that is, the maximum amounts (the number of cc. per kilo animal) tolerated were determined. There is a certain justification in presenting the figures in this way: the consumer of alcoholic beverages seldom has any accurate knowledge of their alcohol content; he speaks of how many glasses or perhaps ounces he has con-

sumed. On the other hand probably many continue to drink until they obtain a definite effect of the alcohol and in so doing would consume a larger amount of a preparation of low alcoholic content than of one with a higher percentage. And it may well be, and indeed seems to be the case, that some of the preparations of comparatively low alcohol content may contain injurious ingredients other than the ethyl alcohol.

Accordingly all of the samples were tested in doses containing equal amounts of ethyl alcohol. The toxicity of 90 of the samples corresponded exactly to the ethyl alcohol content; there were no indications of the presence of toxic substances other than the ethyl alcohol. The toxicity of seven samples was slightly greater than could be accounted for by the ethyl alcohol content; in five of these the toxicity was at most not more than 5 per cent. greater than that of solutions of alcohol of corresponding strength; one of these samples was the "genuine" whisky. In two cases the toxicity was approximately 10 per cent. greater than that of dilutions of ethyl alcohol of corresponding strength. The alcohol content of these two samples was very low (24.2 and 24.9 per cent. respectively) so that nearly twice as much of the samples as of dilutions of alcohol of the average strength of whisky were necessary to produce comparable effects; given in the same doses as whisky they were much less poisonous than the latter. It is interesting to note that with one exception all of the samples which were more toxic than dilutions of ethyl alcohol of corresponding strength had a low alcohol content.

On the other hand three samples were slightly less toxic than corresponding dilutions of ethyl alcohol; these contained 0.93, 2.14 and 2.33 per cent. of methyl alcohol. Attention was called above to the fact that small amounts of methyl alcohol substituted for ethyl alcohol measurably lowered the acute toxicity of the mixture (the acute toxicity of methyl alcohol being less than that of ethyl alcohol) but did not increase the chronic toxicity; the body seems to be able to tolerate small amounts of methyl alcohol indefinitely just as it can tolerate small amounts of some other poisons indefinitely.

One of the samples showing a toxicity slightly greater than could be accounted for by the ethyl alcohol also contained methyl alcohol (to the extent of 2.4 per cent.); but this greater toxicity can not be attributed to the methyl alcohol for it was the acute toxicity which was slightly higher than that of a corresponding dilution of ethyl alcohol and the acute toxicity is lowered by methyl alcohol.

DISCUSSION AND NOTES

The only poisonous substance of significance found in these samples was ethyl alcohol and the toxicity of the various samples was closely parallel to the ethyl alcohol content. Although much has been said and written recently on the alleged great toxicity of much of the illicit liquor now being sold, I know of no analyses or experiments indicating the presence of substances distinctly more toxic than ethyl alcohol and present in sufficient amounts to have a distinct effect. A number of instances have been reported in the past in which mixtures containing a high percentage of methyl alcohol were sold as whisky (with very disastrous results) but very few such cases seem to have been reported recently. Deaths are of course constantly occurring from the consumption of illicit liquor but very rarely has any evidence been offered that they were not due entirely to the ethyl alcohol. A fact frequently overlooked is that a person deeply intoxicated is near death and that a dose of alcohol slightly greater than that necessary to cause profound intoxication is a fatal dose. This condition may be realized when a liquor of unusually high alcohol content is consumed in the same quantities as if it contained the more usual percentage of alcohol. Three instances apparently of this character have been brought to my attention: death was attributed to "poison whisky" but the "whisky" in question contained, in two cases, over sixty per cent. of ethyl alcohol and in the third case eighty per cent, of ethyl alcohol and no other poison was found.

Much emphasis had been placed upon the presence in illicit liquor of methyl alcohol but here again definite information both as to the amount of this alcohol in such liquor and as to the injurious effects of it is lacking; there does not seem to have been any marked increase in the number of cases of toxic amblyopia—the most frequent sequel of the consumption of methyl alcohol—with the increased sale of illicit liquor.

There is neither experimental nor clinical evidence that amounts of methyl alcohol such as those found in the samples which we examined have a deleterious action; the poisoning caused by such samples is due to the ethyl alcohol. In fact the toxicity of these mixtures was measurably less than that of pure ethyl alcohol of the same strength. This result is not surprising when it is remembered that these two alcohols differ markedly in their pharmacological action: ethyl alcohol has a more pronounced, whereas methyl alcohol has a weaker action upon the higher nerve centers. The effect of the one is not simply added to that of the other; on the contrary, each dilutes the other so that animals tolerate larger doses of some mixtures of the alcohols than of either alone.

Thus, a solution in which ten per cent. of the ethyl alcohol had been replaced by methyl alcohol was tolerated by animals in larger doses than a solution containing only ethyl alcohol; such a mixture when given daily for several days was also better tolerated than the pure ethyl alcohol. There were no indications that

the methyl alcohol was having any effect other than that of diluting the ethyl alcohol. This was still more marked as regards acute effects when twenty per cent. of the ethyl alcohol was replaced by methyl alcohol, the lethal dose of such a mixture being about thirty per cent. larger than that of ethyl alcohol alone. When the largest tolerated doses of such mixtures were repeated daily for a week or ten days, symptoms suggesting a cumulative action of the methyl alcohol appeared. When a mixture consisting of 70 per cent. ethyl and 30 per cent. methyl alcohol was given to rats daily in doses as large as the tolerated doses of ethyl alcohol, the distinct cumulative action of the methyl alcohol was evident and death with symptoms characteristic of methyl alcohol poisoning occurred after six to eight doses. I am confident that anyone who has seen the effects upon animals of equal doses of whisky on the one hand, and on the other hand a mixture of ethyl and methyl alcohol of the same alcoholic strength, but in which 10 or 20 per cent. of the alcohol was present as methyl alcohol, would feel that there would be less (at least immediate) danger in taking the methyl alcohol mixture than the whisky. Of course great care must be taken in transferring the results of experiments on animals to man, but it may be recalled that pharmacologists, as a result of experiments on animals, recognized the peculiarly dangerous properties of methyl alcohol long before clinicians did.

Percentages of methyl alcohol comparable to those in the samples of illicit liquor investigated in this study have frequently been found in certain varieties of European brandies, but no injurious effects seem to have been attributed to them.

The often-expressed fear of injury to the eyes from such small percentages of methyl alcohol is probably not well founded: apparently the smallest amount of methyl alcohol to which injurious effects upon the eye have been attributed was about 15 cc. and this was in a case of a claimant for damages and ophthalmologists familiar with the case expressed much doubt as to whether only this amount had been taken; to get even this amount of methyl alcohol in the samples tested in this study would involve the taking of a surely fatal dose of ethyl alcohol.

Of course no one would condone the addition of even small percentages of methyl alcohol to potable liquors. Methyl alcohol does not produce to a distinct extent, if at all, the condition of euphoria for which ethyl alcohol is ordinarily taken; nor does it have a food value as does the latter. It is unwise to permit even small amounts of a useless and potentially dangerous substance like methyl alcohol in any preparation which is taken internally; authorities would do well to prosecute the vendors of illegal beverages containing methyl alcohol under the general laws relating to poisons and perhaps also for the misuse of denatured alcohol as well as under the provisions of the prohibition act. On the other hand, it serves no useful purpose to exaggerate the dangers of small amounts of methyl alcohol in liquors and so divert attention from the more serious dangers of large amounts of ethyl alcohol.

Another point of some interest in this study was the finding that a sample of genuine bottled-in-bond whisky, of the most approved "medicinal quality", was slightly more toxic than any of the samples of illicit liquor, with the exception of three samples, the slightly higher toxicity of which was plainly due to the slightly higher content of ethyl alcohol. Even when the genuine whisky was compared with the other samples on the basis of their alcohol content it was found to be slightly more toxic than ninety-three per cent. of them. Only two of the samples were, in proportion to their alcohol content, more toxic than the whisky and in neither case was the difference marked. These two samples had a low alcohol content (24.2 and 24.9 grams per 100 cc.); possibly they were liquors distilled from "home-brew" and analogous to specimens studied by MacNider (*J. of Pharmacology and Exper. Therapeutics,* Vol. XXVI, No. 2, p. 97, 1925) and found by him to have certain toxic actions different from dilutions of ethyl alcohol of corresponding strength.

In view of these results the question may again be raised as to the basis for the belief held by some American physicians and many others as to the "wholesomeness" and peculiar therapeutic virtues of "whisky" made in a certain manner and colored by something extracted from charred wood. Although special therapeutic virtues seem to be ascribed to these by-products, no one seems to have suggested that they be isolated and administered independently of the alcohol. That it is desirable to administer drugs in a form agreeable to the patient, is recognized, but no such emphasis has been placed upon this factor in the case of drugs of vastly more therapeutic importance than alcohol. In any case, it is not necessary to resort to such an elaborate and time-consuming process as the method of making U. S. P. whisky: no less an authority than Dr. Wiley stated "You can so imitate a whisky that even the elect would be deceived." (Proceedings Before and By Direction of the President Concerning the Meaning of the Term "Whisky". Washington, 1909, p. 859. Asked to name some of the "elect", Dr. Wiley named himself and President Roosevelt.)

There is no reason to suppose that European physicians, using alcohol in forms other than whisky, do not secure as good therapeutic results, as do American physicians; it may be that the adherence of the latter to the belief in peculiar virtues of the U. S. P. whisky is partly responsible for the exorbitant and unreasonable

prices which the American sick are compelled to pay for "medicinal whisky".

A number of the samples of illicit liquor investigated in this study had an odor and flavor which would probably have been as acceptable, or more acceptable to many, then genuine medicinal whisky and which were also slightly (but not significantly) less poisonous than this, although containing the same amount of alcohol.

The conclusions recently drawn by Chopra (*Ind. Jour. of Med. Res.* 1927, 14, 1005) from an exhaustive study of the "toxicity of mature and immature genuine spirits and imitation or factitious spirits" are of interest in this connection.

This author found "ethyl alcohol by itself to be as toxic as ethyl alcohol plus the essences used in the imitation or factitious spirits; the specimens of fully matured and immature genuine spirits and imitation or factitious spirits showed about equal toxicity; ethyl alcohol if mainly responsible for the toxic effects; the deleterious effects of the cheaper spirits are due to the tendency on the part of the consumer to ingest larger quantities, partly because of their comparatively milder taste, which is less satisfying to the palate".

The only new problem, from the public health standpoint, suggested by this study, is in connection with the variable and usually unknown percentage of ethyl alcohol in illicit liquors. It is evident that a person accustomed to drinking large amounts of a beverage containing 25 per cent. of alcohol, would seriously endanger his life if he drank equally large amounts of a liquor containing 40 per cent. of alcohol; the great importance of this factor at the present time is strikingly shown by Lythgoe in the preceding article. The problem seems to be still primarily a question of ethyl alcohol, rather than one of "good" or "bad" alcohol. In other words, it is not the so-called "bad boot-leg liquor" but the reputed "good grain alcohol" which causes acute poisoning and death; this is the case with both the illicit and the "medicinal" whisky.

Closely connected with this subject, however, is another problem which deserves careful consideration—the use in the industries, and especially in food products, of substitutes for ethyl alcohol which are not subject to the often annoying restrictions placed by legislation upon this use of alcohol. Revenue laws enacted twenty-five or thirty years ago in regard to the use of ethyl alcohol, led to the widespread use of methyl alcohol in many food and analogous products and with very disastrous results. An analogous danger seems to be present now: substances distinctly more dangerous than methyl alcohol have been proposed as substitutes for ethyl alcohol in food products. It is not sufficiently recognized what a unique position ethyl alcohol occupies in respect to the animal body: it is practically the only known substance essentially foreign to the animal body which, when present in the blood, is, in moderate amounts, easily and quickly rendered harmless. The body can not only destroy ethyl alcohol, but can do so in a manner to make it of use: entire nations derive as large a part of their food from alcohol as from meat and other sources of proteins. Yet substitutes for alcohol in preparations to be taken internally have been proposed with far less investigation than would be given to a new motor fuel.

CONCLUSIONS

The toxicity of one hundred samples of illicit liquor was tested by various methods upon different animals. The samples varied greatly in color, taste, odor and alcohol content; six contained small amounts of methyl alcohol. The samples were probably representative of the illicit liqour sold in Massachusetts.

The toxicity of the samples was closely parallel to their content of ethyl alcohol; in no case were there indications of the presence of substances significantly more poisonous than ethyl alcohol.

Six of the samples contained methyl alcohol but the amounts were not sufficient to increase either the acute or chronic toxicity.

Note. Since the completion of this report Atkinson has published (*Jour. Am. Pharm. Assoc.*, 1928, 17, p. 28) an excellent review of "the poison in illicit liquor".

THE IDEAL SYPHILIS CLINIC*†

BY AUSTIN W. CHEEVER, M.D.

WHILE it is rarely, if ever, possible to attain the ideal syphilis clinic, it seems not out of place to discuss somewhat informally the nearest approach to it that can practically be made.

In order to profit by ready access to a laboratory where proper serologic, urine, and other examinations can be made, to take advantage of X-ray facilities, and to have the privilege of consulting freely with specialists in any desired field, the ideal syphilis clinic must be a part of a general clinic. Then, too, this arrangement will make possible complete physical examinations at the outset of treatment and at occasional intervals thereafter unless these can be made by the syphilis clinic personnel.

There is another none the less important, though entirely different reason why the syphilis

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†For record and address of author, see "This Week's Issue," page 255.

clinic can best serve in connection with a general clinic, and that is that the presence of patients coming for other ailments makes the syphilitic feel less conspicuous, for those who have venereal syphilis are naturally very sensitive and those whose infection is accidental and in no way due to their own misconduct are very loath to be classed with the other group.

That it may do its full duty to the community, the clinic must have daytime and evening hours as there is always a certain percentage of people who cannot afford to lose time during the day, and some who, though they can afford it, will not be able to retain their positions if they take it as frequently as is required for proper treatment.

Fees should always be charged; they can be adjusted to the needs of the community, but no patient who really cannot pay should be turned away under any circumstances. It is probably wiser to have rates higher in the evening than in the daytime; it may be possible thereby to pay a very small salary to the evening staff.

It is very necessary to have at least a few beds which may be used for infectious patients, especially those with mouth lesions so that they may be retained for a few days until the danger of spreading the disease is past, (and in most cases this is but a very short time); for patients for observation and study, whatever the type and stage of the disease; and for patients for lumbar puncture so that they may be allowed at least a few hours in which to lie perfectly quietly.

I believe it is of importance for a syphilis clinic to be combined with the skin department, if not under one chief, at least in close association with it. Both of these departments must work together harmoniously without jealousy and with a rotation of service for all except the chiefs; otherwise it is absolutely impossible to train the younger men to have sufficient diagnostic acuity. This is important in a specialty which depends so largely on memory of what one can learn through fingers and eyes. It is impossible to retain impressions sufficiently clearly over any great length of time, unless one is constantly reinforcing them.

From the patient's point of view it is ideal to have the same staff on duty throughout the year, for a syphilis patient appreciates more than any other, probably, the opportunity of seeing the same physician regularly. When he finds the same doctor in attendance on successive visits, he develops much more confidence in the clinic and the care which he is given, and he will throw less load on the social service department because of less need of follow-up. But it is important that the staff also be protected from too continuous service in order to avoid the danger of getting "stale" from too steady routine. Free periods should be given for complete relaxation, teaching, or research work. If the services are planned to be fairly short, the periods of service of the different men should overlap so that the patients never feel that there are many strange faces among the staff.

Neurosyphilis should be treated in the same department as syphilis of other types when possible, which, of course, means that there must be some one in the department with sufficient neurologic training. With a neurologist's assistance there should be enough rotation of these cases so that several or all of the staff would eventually become proficient to adequately handle this group. If the organization of the hospital is such that the neurologic cases must go to their particular department for treatment, (an arrangement which doubles the necessary technical staff and equipment for giving the intravenous injections), then there must be adequate rotation of service between the departments of syphilis and neurology so that the neurologist can become relatively conversant with syphilis in all its stages and phases.

Our ideal clinic will have a readily available social service with workers showing such kindly and sincere helpfulness that patients, who quickly sense and resent an overbearing, inquisitive attitude, will feel their friendliness and will quickly respond. A really efficient follow-up system should be maintained by this department to look after lapsed cases properly, to round-up complete families, to arrange for transportation of invalids, and such duties.

Records should be kept as full as possible considering the number of staff and the time that may be devoted to that purpose, but they must be in such form that they may be rapidly understood by any physician in the clinic, and sufficiently complete to be of value if they are called for by the courts. They should be dependable for statistical purposes, at least in preparing data for publication.

Teaching is not always possible, but it is of great advantage to a clinic to be associated with a teaching institution, for the presentation of cases increases one's acuity of observation and thought and the quality of the work is likely to be better. The presence of students can be so arranged as not to antagonize patients.

Again the clinic must work in constant coöperation with practicing physicians in the neighborhood, being ready at all times to offer any sort of assistance and instruction, and to make possible opportunities for observation and practice to men outside the clinic who are sufficiently interested to take advantage of them.

In a paper of this type treatment need be considered only from a very general point of view. A properly flexible routine is advisable for early cases, which simplifies matters for the staff and appeals to patients of certain mental grades who may not understand that the disease cannot be treated with mathematical precision, but this routine must be changed upon proper indications to carefully individualized treatment. In

other words, it is often safe to fit the patient to the treatment, but always safe to fit the treatment to the patient. Of course all late cases must be entirely individualized.

As I have intimated before, all patients at a time as nearly as possible to the first visit should have, either in the skin clinic or in the general medical, a complete physical examination, including urinalysis, serologic tests, blood count, hemoglobin estimation. Defects found at this examination should be corrected as rapidly as possible, especially foci, poor teeth, associated urethritis, prostatitis, anemia, obesity, underweight, and such conditions.

All patients with late syphilis, and some appropriate ones with early stages, should have a lumbar puncture at the time of admission. During treatment, reasonably frequent checks should be made, the urine examined and other necessary laboratory procedures carried out. A full physical examination should be done every year, including serologic tests and in some cases lumbar punctures. After patients have fulfilled the complete course of active treatment, they should be seen once or twice a year for at least fifteen years for the double purpose of knowing the end results in as many patients as possible, and of keeping in touch with the patients to pass on to them any new knowledge or methods which may be gained.

A CASE OF SYRINGOMYELIA AND NEUROSYPHILIS*

BY MORRIS YORSHIS, M.D.

SYRINGOMYELIA and neurosyphilis form a rare combination, interesting because of the complexity of the clinical picture. The following case is reported because the post-mortem study revealed this unusual combination.

HISTORY:—J. D., aged 70, entered the Boston City Hospital complaining of numbness and weakness in both legs.

F. H.—One sister died of general paresis. Otherwise, the family history is negative.

P. H.—Gonorrhoea 20 years ago at the age of 50. During the same year the patient noticed that his left hand became weak. Two years later, he fell from a load of hay, striking his head and causing a deformity at the back of his neck which persisted for the rest of his life and which made motions of the neck difficult. Seventeen years ago, the patient contracted lues, for which he received treatment for twelve months. His left leg at this time became numb and weak, causing him to drag it. Two years ago, he had "rheumatism" of the left leg. Last year, he noticed his right hand was growing weak and numb. He suffered no pain.

The following findings were recorded on examination: *Gait and Station:*—The patient dragged his legs, not being able to walk without support. He had difficulty in maintaining his position when the eyes were closed. *Cranial Nerves:*—The pupils were unequal, slightly irregular, the left smaller than the right. Both were fixed to light and reacted sluggishly to distance. The patient was slightly deaf, due to eighth nerve involvement. All the other cranial nerves were intact.

ARMS:—There was evidence of atrophy in both hands, especially the left, most marked in the thenar eminences. The left hand was in a drooped position; the right hand in a claw-like attitude. There was wasting of the infra- and supra-spinati, deltoids, biceps and triceps muscles. No grips were obtainable owing to the markedly weakened hands. The handwriting was impossible to decipher. The biceps, triceps and wrist reflexes were present but sluggish.

The abdominal reflexes were absent except in the upper right quadrant.

LEGS:—There was definite paresis and spasticity. The sensory tests were not satisfactory due to the patient's deafness and consequent lack of coöperation. The cremasterics were present. The knee jerks were very brisk on both sides and patellar jerks were obtainable. The ankle jerks were hyperactive on both sides. A Babinski was present on the right; there was no ankle clonus. Mentally he was disoriented, stating, for example, that the year was 1895 (1925). The test phrases were fairly well performed. Because of deafness, the mental examination was difficult.

A general visceral examination was negative except the heart. The apex impulse was outside the nipple line, 13 cm. to the left of M.S.L. R.B.C. was under the sternal margin. There was no enlargement of the great vessels. The sounds were of good quality with many extrasystoles. There was an occasional dropped beat. The first sound at the apex was split and a slight systolic murmur was heard. At the base, there was a slight systolic murmur which was best heard in the aortic area. A2/P2. The second sound was loud and ringing. The radials were difficult to feel. The temporals were not sclerosed. The blood pressure was 180/90.

SPINE:—There was lordosis in the dorsal region with some degree of kyphosis about the seventh cervical vertebra and definite lateral scoliosis to the right. There was no bend in the dorsal-lumbar spine. The erector spinae muscles were atrophied.

LABORATORY FINDINGS:—The urine showed the slightest possible trace of albumin. *Blood:* Hgb. 94%; R.B.C. 5,120,000; W.B.C. 17,000; *Differential* PMN 84%; Mono. 8%; Lymph. 6%; Eosinophiles 2%. The blood Wassermann was positive. The spinal fluid was clear. The pressure and sugar content were normal. The globulin was increased. The Wassermann reaction of the spinal fluid was positive. There were 45 lymphocytes and the Gold Sol was 555555441. The X-ray of the chest showed marked widening and tortuosity of the aorta with areas of calcification in its wall. Extensive hypertrophic arthritis of the lower four cervical vertebrae was demonstrated by X-ray of the spine.

PROGRESS NOTES:—Two weeks after admittance to the hospital, the patient's right leg also became numb and weak. The following month, while standing near a radiator, he burnt both his elbows and wrists without realizing it until the following day. A physical examination at this time showed fixed pupils, diminished touch and corneal reflexes, a loss of pain, and diminished heat sense in the right shoulder girdle. There was atrophy of the muscles supplied by the sixth, seventh and eighth cervical segements—more marked on the right. The legs showed spastic contractures, decubitus, and an arthritis of the right knee. A double Babinski was present and a cervical arthropathy. The patient later developed what seemed a bulbar palsy, experiencing difficulty in mastication and deglutition and

*For record and address of author see "This Week's Issue," page 255.

there was drooling. The voice was very feeble. The patient died six months after admission.

POST-MORTEM FINDINGS: — The heart was negative save for irregular patches of atheromatous thickenening in the aortic cusps, the aortic cusp of the mitral valve and the endocardium of the left auricle. The aorta showed a very extreme degree of arteriosclerosis (Fig. 1) with numerous depressed or raised yellow to pearly gray, ulcerated, plaques throughout and much calcification. The aorta was somewhat dilated above the sinus of Valsalva, measuring 11.5 cm. in circumference in the ascending portion.

The brain (Fig. 2) weighed 1170 gms. The pia arachnoid was thickened and the gyri over the precentral and post-central areas were definitely flattened and atrophic. There was moderate arteriosclerosis of the basilar artery and vessels of Willis.

FIG. 1. Aorta:—Showing diffuse calcification.

The microscopic study of the cortex showed typical advanced general paresis. The details of the study are as follows:

The cortex showed the pia somewhat thickened

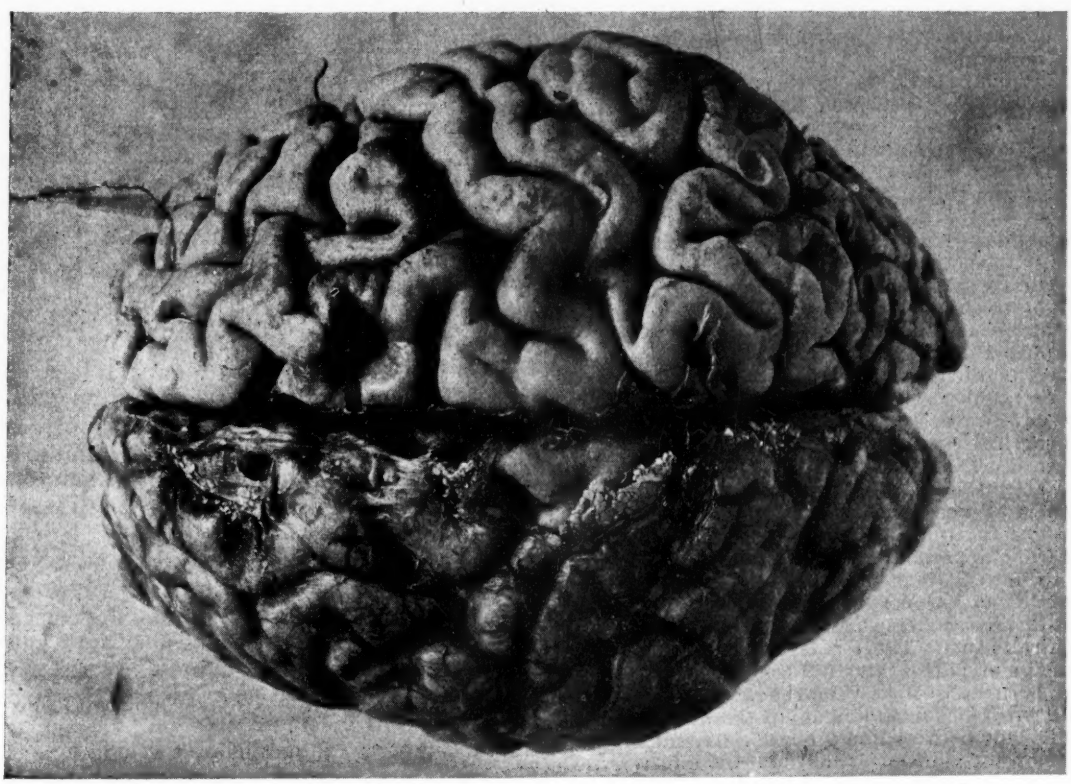


FIG. 2. Brain:—One hemisphere stripped of meninges—showing atrophy. One hemisphere with pia showing chronic inflammation.

and containing blood vessels with thick walls, the intima, media and adventitia being involved. In places there was infiltration with lymphocytes and endothelial cells. Within the cortex there were prominent small blood vessels, showing moderate congestion, and about some of them there was very marked perivascular infiltration in which plasma cells played a prominent part. The arrangement of nerve cells was in places very good, but in other places the laminations were destroyed and the nerve cells were degenerated. Another section of the cortex showed more meningitis and more nerve cell destruction but less perivascular infiltration. Plasma cells were not abundant, lymphocytes being the common exudative element.

In the spinal cord (Fig. 3) the meninges were not remarkable. The cord was flattened and atrophic in the cervical and dorsal region and a section in the dorsal region showed cavitation on both sides, leaving only a cortical shell. The consistency was quite soft and pulpy, and no normal markings were seen. A section in the lower dorsal and upper lumbar region showed no cavitation but a soft, pulpy surface without markings.

The microscopic study of the spinal cord presented a cavity which extended from the upper cervical region at about the level of the third cervical root and probably even higher, although in the upper extremity of the cord there was an injury due to removal at autopsy. This extensive cavity then proceeded downward, reaching its maximum size in the lower cervical and upper dorsal portions of the spinal cord. The whole cord appeared smaller than normal at this level. In the lowest dorsal segments the cord was very much flattened, showing gliosis, but no true cavity. In the lumbar region, there was no external abnormality, but on section there was found to be a distended central canal.

A section of the cord stained with cresyl—violet showed a large cavity. This was an outgrowth from the central canal. There was thickened ependyma, subependymal gliosis and diffuse gliosis, while the ventral horn cells were remarkably well preserved. The pia was thickened, and in spots showed infiltration with lymphocytes and plasma cells and the dura was somewhat thickened and slightly infiltrated.

Weigert sections of the cord showed a large cavity in the cervical region and degeneration of the cortico-spinal and dorsal tracts especially, although there was also diffuse degeneration around the whole cavity—not localized in any particular tracts. The sections from the dorsal cord were very much shrunken and flattened. The central canal was very wide, and had about it marked gliosis. The gliosis was also conspicuous throughout the whole dorsal half. In the meninges there was a considerable infiltration of lymphocytes. In the ventral median fissure there were two large dilated veins and one large artery with a conspicuously thickened wall. No motor nerve cells were found on examination of five sections. Levaditi stains of two levels of the spinal cord were examined and showed no spirochaetes.

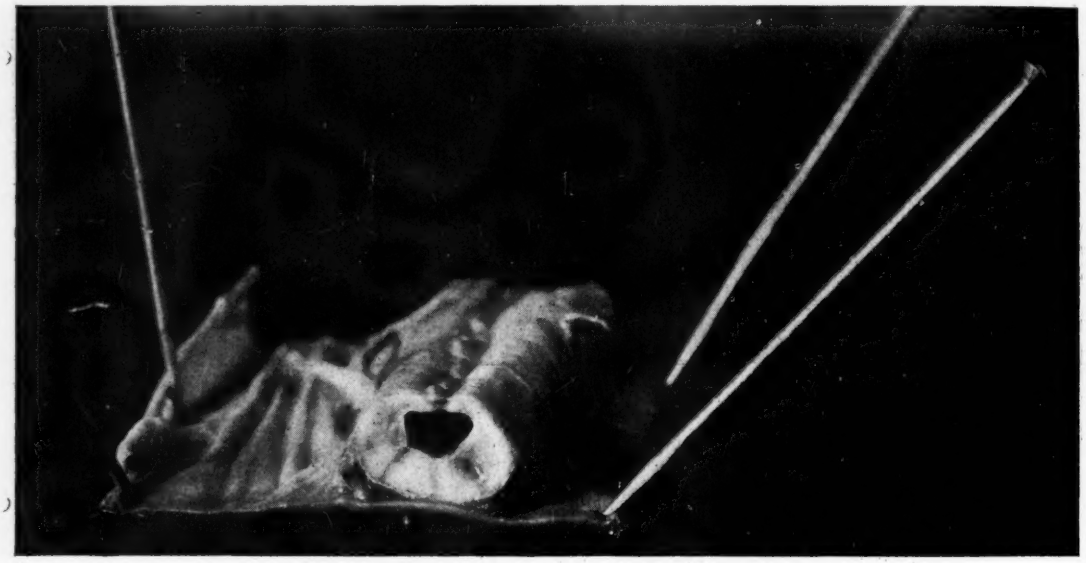


FIG. 3. Spinal Cord:—Showing Syringomyelia.

DISCUSSION:—The patient's family history is interesting in that his sister died of general paresis. The physical examination of the patient on admission showed two kinds of signs—those of upper and lower motor neuron degeneration, together with neurosyphilis, as proven by the spinal fluid examination. The disorientation, deafness and emotional instability, plus the typical alterations in the spinal fluid, such as pleocytosis, increased globulin and protein, paretic gold curve and positive Wassermann test warranted a diagnosis of general paresis. But the other condition present—was it also luetic or was it another disease? A tentative diagnosis of luetic amyotrophic lateral sclerosis was made because both anterior horn and pyramidal tract were involved and no satisfactory sensory changes were found. Cases of syphilitic amyotrophies were previously reported by Dana and Leri, the latter believing it to be an entity comparable to tabes. Chronic hypertrophic pacchymeningitis at the level of the cervical region could also explain the various signs, but the duration of the symptoms and signs was against this diagnosis. However, when the patient burnt himself accidentally without pain, the diagnosis of syringomyelia was made. It is extraordinary in that this chronic progressive disease developed at such a late age and went on hand in hand with general paresis, neither

disease conflicting with the other, nor altering the course of the other. The dissociated anaesthesia obtained on the last examination, the arthropathy, the spastic paraplegia, atrophy, contractures, and bulbar signs, well conform to a text-book description of syringomyelia, while the mental signs and the spinal fluid findings were typical of general paresis.

Thanks are herewith given to Drs. Myerson and Cobb for permission to publish this case and further thanks to Dr. Cobb for photographic and special microscopic work.

CONTROL OF BLOOD SUPPPLY IN TONSILLECTOMY*

BY M. P. SMITHWICK, M.D.

AFTER thirty years' experience in performing tonsillectomy by the usual methods, the realization that bleeding, or the attempt to avoid it, is the chief obstacle to uniformly good results led me, two years ago, to adopt the following technique, which has proved satisfactory. There is nothing unusual about the theory of the method. It merely consists in removing the tonsil practically as one would an organ from any other part of the body. Most operators probably consider this unnecessary and perhaps a little difficult in tonsillectomy. With a little practice, however, the procedure is quite simple and probably is of value in that it insures complete removal of the tonsil, reduces the chance of post-operative hemorrhage to a minimum, eliminates the fear of it, and decreases the risk of inhalation of blood and secretion into the bronchial tree. The noteworthy feature of the technique, and the only one which has not been suggested by others, is the clamping of the blood supply before cutting, followed by ligature.

A preliminary dose of atropine, 1/120 grain, is given to adult patients, and a proportionate dose to older children, operated upon under general anesthesia. Adults operated upon under a local anesthetic are given morphine, 1/4 grain.

Operation. The tonsil is drawn forward by a tenaculum, and a small opening made just through the plica between the capsule of the upper extremity of the tonsil and the junction of the pillars. Into this opening the blunt end of a tonsil knife is inserted and the plica alone is slit the full length of the posterior pillar. Next, starting as before, with the blunt end of the knife the plica is slit the full length of the anterior pillar. The plica has now been incised all around the tonsil except where the lower edge of the plica joins the tongue. If the incision goes no deeper than the plica there is no bleeding of consequence.

With the end of closed curved scissors the posterior pillar is pushed from the tonsil capsule by keeping close to the capsule. Next the anterior pillar is pushed from the tonsil capsule. The plica at the junction of the pillars is pushed gently away from the upper end of the tonsil. If this separation of the tonsil is made posteriorly and anteriorly with gentleness, no vessel of importance will have been torn as a rule, but occasionally a sizeable vessel between pillar and capsule will need tying. The tonsil will now be suspended by its essential vessels and little tissue besides, forming a very narrow longitudinal partition from tonsil capsule to fossa. The nerves are frequently plainly seen running in this partition to the lower end of the tonsil capsule.

Now comes the feature referred to and which offers excellent practice in tying vessels in a deep position. If a preliminary opening is made with the forceps closed there is less chance of ruptering vessels. One jaw of a seven-inch curved artery forceps is gently pushed behind the anterior pillar through the thin partition of vessels referred to, at or above its middle point and emerging anterior to the posterior pillar. The tonsil held in the tenaculum is put under some tension and the artery forceps locked. If this has been done properly the upper portion of the tonsil is entirely anterior to the firmly locked artery forceps. When the tissue grasped by the forceps is cut away, the tonsil sags, allowing an easy tie, the forceps being removed as usual when the first knot is set. As the tissues grasped by the forceps are delicate one must be careful not to tear them away while making the tie. Those who have no objection to leaving cut vessels untied can now remove the tonsil with the snare with a better chance than usual of getting the whole of it.

Those who, like the writer, prefer to tie cut vessels now pass one jaw of the forceps through the partition of vessels keeping close to the floor of the tonsil fossa and emerging as before anterior to the posterior pillar. When the forceps is locked it should grasp all the remaining vessels of consequence. When these are cut, the tonsil should be held only by the attachment of the lower edge of the triangular plica to the tongue or should be freed to that extent. A tie is made as before and the forceps removed. One can now cut this attachment of plica to tongue either with a snare or scissors.

The above operation insures a definite control of blood supply and one may hope that, as in other operations, the average result will improve with experience.

*For record and address of author see "This Week's Issue," page 255.

NURSING CANCER PATIENTS IN THEIR HOMES†

BY LUCILE EAVES AND ASSOCIATES*

A MERCIFUL conspiracy of reserve has drawn a veil over the distressing details of the difficulties which must be met when terminal cases of cancer are nursed in private homes,—particularly when these are the overcrowded quarters into which urban families have been forced. A comparison of the number of these patients with hospital resources in the United States makes it evident that the majority of such sufferers must depend on home nursing. In 1923, the general hospitals of the United States reported beds for 247,256 patients. During the following year, 91,138 persons in States of the registration area died of cancer. The Massachusetts Cancer Commission (Special Report, p. 64) concludes that cancer patients require average periods of terminal care of four to five months duration. If all victims of cancer received four months terminal care, then one bed in eight of all the general hospitals would be occupied continuously by these incurable patients, and additional beds would be required for cancer patients of States not included in the registration area and for those undergoing radium or surgical treatments.

However, the general hospitals often refuse to take chronic cases, because more can be accomplished when care is given to patients with acute maladies for which improvement or cure may be expected. The average period of hospital treatment reported for all types of cases was less than two weeks, so that eight ordinary patients can be benefited by services required for one of these incurable victims of cancer.

It is evident that but a relatively small proportion of these patients can hope to have their sufferings alleviated by the expert care given in good hospitals. Only about five per cent. of the population of the United States is included in the income classes which might be expected to employ trained nurses in their homes. This large, rapidly-increasing group of sufferers must be cared for chiefly by relatives, friends or attendants, who are in great need of expert advice and guidance in order that they may perform skillfully the varied services required by persons dying of cancer. It is obvious that assistance and instruction in the home care of cancer patients will be an increasingly important part of the services of public health nurses. Persons responsible for the training and supervision of these nurses may profit by a clear statement of the conditions surrounding and of the services demanded by this group of patients.

The following discussion is based on a representative group of 181 of the 1517 cancer patients cared for during five years (1922-1926) by nurses of the Boston Community Health Association, and on 628 histories obtained by conferences with surviving relatives of Boston cancer victims (1924-1925), or by the study of records in the hospitals where they had received treatment. We have been able also to obtain less complete information about 962 persons who died of cancer in hospitals of public or private institutions. These and other more varied sources of information make possible reliable discussions of the following topics:

1. Sex, age and nationality distribution of cancer patients who must be given terminal home care.
2. Their probable financial and personal resources.
3. The nursing services which they will require.

1. *Sex, age and nationality distribution.*

"Year after year statistics show that more than half of those who die of cancer are females, although the male population of the registration area exceeds the female" is the conclusion of the Federal Chief of Vital Statistics. In Massachusetts, where there is an excess of females in the population, there are 160 women to every 100 men who succumb to this disease. Not only is the ratio of women victims greater but a relatively higher proportion receive home care. Women stricken with a mortal disease wish to remain in their accustomed surroundings, and relatives often make heavy sacrifices to gratify this feeling. Records of the two public hospitals studied showed that nearly three out of four of the cancer patients had been men, while there were two women to every one man among the cancer patients cared for in their homes by the Boston Community Health Association. (Table 1.)

Numerous statistical studies have established fully the fact that cancer attacks persons who have passed the prime of life. The most common ages in the groups studied were between 60 and 65 while the average age at death of patients nursed in their homes was 60.2 years. Women who died of cancers of the female genital organs averaged five years younger (54.9).

Recent European and American studies show great variations in cancer mortality between nationalities and localities. While it is clear that these differences may be lessened when there is

*Grateful acknowledgment for assistance in this coöperative study is made to the officers and nurses of the Boston Community Health Association, whose reports of their services have supplied data for this discussion. I am under special obligations to Miss Mae Chapin, Statistician of the Association, for her assistance in locating records and for admirable annual summaries of the cases receiving care. Students in my Simmons College research courses, and my Assistant in the Research Department of the Women's Educational and Industrial Union, have contributed to the analyses of these records and preparation of statistical tables and charts. Data from records of the Community Health Association have been supplemented by information obtained in field work and by records of hospitals and institutions giving care to cancer patients.

†For record and address of author, see "This Week's Issue," page 255.

greater uniformity in medical care and diagnosis, it hardly seems probable that they will be overcome entirely in the near future. In the United States the foreign-born suffer more from cancer than the native stock. The average crude rates per 100,000 in Boston for the years 1921, 1922 and 1923, by nationality, were as follows: United States, 83.7; Ireland, 302.0; Russia and Poland, 141.5; Italy, 75.1; Britain, 284.7; Teutonic countries, 369.0; Scandinavia, 223.3; Canada, 267.0. Similar variations between native and foreign-born are shown in the Federal statistics of mortality covering the entire registration area. These statistics indicate that cancer patients cared for by public health nurses will be chiefly elderly women, and the foreign-born will be largely represented when nurses serve communities having groups of Irish, German, Scandinavian, British and Canadian immigrants. (Table 1.)

TABLE 1. DISTRIBUTION BY MATERNAL PARENTAGE OF A SAMPLE GROUP OF CANCER PATIENTS DISCHARGED FROM THE CARE OF THE BOSTON COMMUNITY HEALTH ASSOCIATION.[1]

Birthplace of mother	Persons of specified maternal parentage: Total		Men	Women
	Number	Per cent,	Number	Number
Total,	181	100.0	55	126
United States,	62	34.3	15	47
Ireland,	57	31.5	19	38
Russia, Poland,	8	4.4	6	2
Italy,	18	9.9	3	15
Britain,	8	4.4	5	3
Teutonic,	5	2.8	1	4
Scandanavian,	2	1.1	1	1
Latin,	1	.55	--	1
Canada,	17	9.4	4	13
Baltic,	--	--	--	--
Others,	1	.55	--	1
Not stated,	2	1.1	1	1

[1] This was a sample group selected at random from 1517 cancer cases nursed during the years 1922-1926.

2. *Financial and personal resources.*

Women over fifty years old, particularly those born in foreign lands, frequently are dependent for support on relatives or, in their absence, on charitable agencies. Two-thirds of the beneficiaries of European old-age pension systems are these old women whose families have been unable to provide for their care. A canvass of a typical Boston district* for the purpose of discovering

*Aged Clients of Boston Social Agencies, Chapters I, II, III.

the means of support of residents 65 years old or over reveals the limited financial resources of the portion of the population most subject to cancer. About half of this aged population were widowed. Of the 615 aged persons for whom information was obtained, 38 per cent. were reported as financially dependent. The proportion of dependents among the women was even greater, as 186 of the 305 visited, or about 65 per cent., were without independent means of support. This high proportion of aged dependents was found also in the State-wide investigation of the Massachusetts Commission on Old-Age Pensions. Their report states (p. 57), "Of the 17,357 persons interviewed 65 years of age and over who gave definite information concerning property or income 7,743, or nearly 45 per cent. of the total, had less than $5,000 property and less than $1,000 income either singly or with their spouses. . . . For this group as a whole, about 35 per cent. were self-supporting and nearly 65 per cent. were partially or entirely supported by others." Old age pension bills, which have been presented in the Legislatures of twenty States, have been advocated because of the general conviction that the aged find it difficult to procure the bare necessities of life. Only a third (35 per cent.) of the cancer patients in the sample group from the Community Health Association carried the small insurance polices which entitled them to assistance in paying for the services of the nurses. Forty-two per cent. stated definitely that they had no insurance, and it is probable that this was true also of the remaining 23 per cent. for whom there were no insurance data. The patients who lacked this slight protection so common among the thrifty poor usually were housewives or domestic servants. Over half of the sample group of cancer patients nursed by the Community Health Association were engaged in domestic labors which bring little or no returns in money. Advocates of the prompt procuring of the expensive medical services required by cancer patients have made insufficient allowance for the financial incompetence of the persons most subject to the disease.

TABLE 2. FORMS OF TREATMENT OF A SAMPLE GROUP OF CANCER PATIENTS CARED FOR BY THE BOSTON COMMUNITY HEALTH ASSOCIATION, CLASSIFIED BY BIRTHPLACES OF MATERNAL PARENTS.

Birthplace of mother	Patients of specified maternity who received medical treatment stated below:								
	Doctor in home			Public health nurse	Hospital				
	Family doctor	Specialist	Private nurse		Examination	Operation	Out-patient department	X-ray	Radium
Total,------	177	16	12	181	81	50	12	3	6
United States,-	60	4	5	62	29	17	2	1	2
Ireland,-------	56	9	1	57	21	13	5	--	3
Russia-Poland,-	8	--	1	8	4	2	--	--	--
Italy,---------	18	2	2	18	6	3	3	2	--
Britain,-------	8	--	--	8	5	3	1	--	--
Teutonic,------	4	--	1	5	2	1	--	--	--
Scandanavia,---	2	--	--	2	1	1	--	--	--
Latin,---------	1	--	--	1	1	1	--	--	--
Canada,--------	17	1	2	17	10	7	1	--	1
Other,---------	1	--	--	1	1	1	--	--	--
Not stated,----	2	--	--	2	1	1	--	--	--

The personal resources of the cancer patients often were as limited as their financial. They frequently lived with the families of married sons or daughters, and gave some assistance in household tasks and the care of children. Unmarried adult women who are not gainfully employed are found but seldom in such households.

The sick must be cared for by busy housewives who rarely can afford hired help. But the outlook during serious illness for those with established claims on family groups,—however limited their resources,—is fortunate in comparison with that of elderly persons who live alone. Their savings may be exhausted by earlier medical treatments, so that terminal care must be sought in hospitals giving unpaid services. Only two private hospitals, willing to receive such patients, are located in or near Boston. Those who cannot be admitted may have no resource other than the hospitals maintained in connection with city or State institutions which give shelter to the sad company who reach the end of life without money or friends. About a third of the cancer patients found at the Long Island Hospital said they had no relatives, but one in four of the women and one in ten of the men claimed that they had living children who, for various reasons, were unable or unwilling to give the difficult terminal care required. Conferences with surviving relatives who had passed through the ordeal of nursing such patients in overcrowded homes where there were young children suggested extenuations for the apparent heartlessness of these sons or daughters

The elderly cancer victims must sometimes have been acutely conscious of their dependent relationships and unwilling to incur unnecessary expenses. Pathetic instances were met with in the field work where these aged dependents concealed their sufferings and refused to permit the calling of a doctor until within two or three weeks of death. There were many households where patients might well have hesitated before adding the small fees of the visiting nurse to the burden of their support. Their own or the family self-respect often forbade the seeking of the charitable assistance offered in Boston's numerous medical clinics. An understanding of these complex family and financial situations, common among cancer patients of the class most frequently attended by visiting nurses, is neces-

TABLE 3. CONDITION ON DISCHARGE OF PATIENTS NURSED BY THE BOSTON COMMUNITY HEALTH ASSOCIATION.

A - TOTAL PATIENTS NURSED [1]

Year	Number of Patients	Number of Visits	Number of patients nursed in specified years whose condition was as stated: Cured	Improved	Not Improved	Dead
1922-1926	168099	965236	113508	29956	20947	3688
1922	26194	219492	13391	8826	3278	699
1923	28815	224145	16789	8146	3126	754
1924	44862	152451	34205	4964	4936	757
1925	34858	147827	25736	3961	4466	695
1926	33370	221321	23387	4059	5141	783

B - CANCER PATIENTS [2]

Year	Number of Patients	Number of Visits	Number of patients nursed in specified years whose condition was as stated: Cured	Improved	Not Improved	Dead
1922-1926	1517	27632	63	270	630	554
1922	337	7779	17	57	138	125
1923	330	5670	21	69	121	119
1924	293	4966	9	51	140	93
1925	270	4176	10	46	112	102
1926	287	5041	6	47	119	115

[1] Average number of visits per patient, 5.7

[2] Average number of visits per patient, 18.2

sary to the proper interpretation of the statistics of services rendered cancer patients by nurses of the Community Health Association.

3. *Nursing services rendered cancer patients.*

The radical variation of the case histories of the cancer patients from those of the general run is evident from the summaries presented in the accompanying charts and tables. (Charts I and II, Tables 3 and 4.) While two out of three of the entire group of patients nursed during the past five years were cured at the time of discharge, this was true of only one in twenty-five of those with diagnoses of some form of cancer. The proportions who showed improvement at the time of discharge were about the same in the two groups. The cancer patients with these more favorable prognoses were chiefly those who had been referred to the Community Health Association for post-operative care.

More than three in every four (78 per cent.) of the cancer patients nursed had a hopeless outlook, while this was true of about one in seven of the entire group of patients. If those suffering from cancer were eliminated from the totals of the patients nursed, these differences would be even greater. Over a third (36.5 per cent.) of the victims of cancer were being attended by the Community Health nurses at the time of death, and the unimproved two-fifths (41.5 per cent.) could expect no other termination to the disease.

The need of dealing worthily with this large group in the presence of death presents a solemn challenge to the ethical and spiritual values of modern social services. Boston physicians and nurses quite generally evade the issues by adopting a policy of attempted deception and concealment. Just how far they succeed in keeping a knowledge of the truth from the patient is open to question. Contact during field work with relatives of cancer victims revealed an amazing amount of superstition and misunderstanding. The reticence of doctors and nurses often had permitted the growth of the fear that there was something disgraceful about the disease. Nurses are expected to adopt policies prescribed by the doctors in charge, but, when the truth is permitted, they should give instructions which will dispel such misapprehensions.

The amount and variety of the nursing care required, as well as the discouraging prognoses, reveal the extreme difficulties which must be met when dealing with this dreaded disease. Since

TABLE 4. CARE TO WHICH PATIENTS DISCHARGED FROM THE BOSTON COMMUNITY HEALTH ASSOCIATION WERE TRANSFERRED.

A - TOTAL PATIENTS NURSED.

Year	Number of Patients	Number of deaths	Number of patients nursed in specified years who were transferred to: Hospitals			
			Family	Out-patient Department	House	Other
1922-1926	168099	3688	130873	3376	10449	19713
1922	26194	699	20888	622	1877	2108
1923	28815	754	23026	548	1358	3129
1924	44862	757	38348	526	2380	2851
1925	34858	695	27991	688	1940	3544
1926	33370	783	20620	992	2894	8081

B - CANCER PATIENTS.

Year	Number of Patients	Number of deaths	Number of patients nursed in specified years who were transferred to: Hospitals			
			Family	Out-patient Department	House	Other
1922-1926	1517	574	552	32	194	185
1922	337	125	121	6	43	42
1923	330	119	121	7	44	39
1924	293	95	126	5	38	31
1925	270	102	101	6	31	30
1926	287	115	83	8	38	43

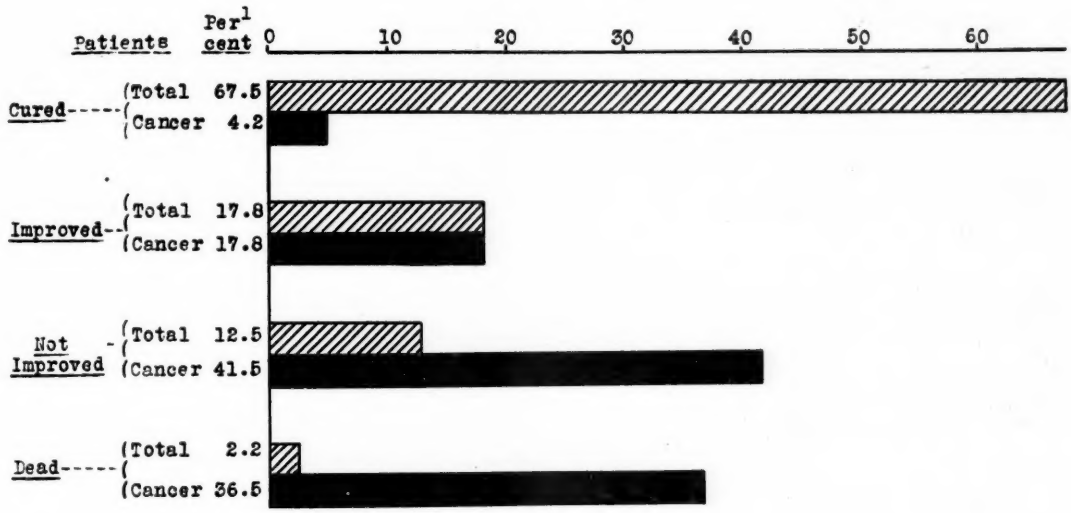
cancer may attack any part of the body, the resulting morbidity is not that of a single disease but of all the varied afflictions to which the human organism may be subjected. Nurses attending cancer patients must be skillful in the application of a great variety of surgical dressings; they give medicated or simpler enemas and douches; they make use of the catheter; they assist patients to breathe or take nourishment by means of tubes; and they administer opiates or other sedatives. Patients with some forms of cancer often suffer from extreme nausea, and incontinence is common during the terminal weeks of the disease. Exceptional demands on the skill and fortitude of the nurse may be made when she gives cancer victims the varied forms of general care required for all bed-ridden patients.

The nurse's ability to instruct the unskilled attendants who wait on the cancer patients is of even greater importance than the services given during her visits. Assistants, usually practical rather than trained nurses, were employed in only one in fourteen of the sample group of cases studied. (Table 2.) Frequently the help of the visiting nurses was sought only when the end was near and the patients' relatives had exhausted their resources and endurance. Yet it has been estimated that the period of terminal care, which should approach in skill that given in a hospital, averages between four and five months. How can the clumsy, untrained nurses of the poor be prepared to give the continuous services which will relieve the patients of all avoidable suffering?

The records of the Community Health Association during a five-year period show that over a third (36.4 per cent.) of the cancer patients were discharged to their families. (Table 4, Chart II.) From this percentage must be taken the 22 per cent.—largely post-operative cases—who were reported as cured or improved at the time of discharge. The remaining 14.4 per cent. would show the proportion of families whose members felt competent to continue without aid the care required for terminal cases. One-fourth of these patients were discharged to care other than that which could be given by their families, and in over a third (36.5 per cent.) the relatives or friends, with guidance and assistance from the visiting nurses, gave more or less efficient care until death brought relief to the sufferers. (Chart II.)

CHART I.

CONDITION ON DISCHARGE OF ALL PATIENTS AND OF CANCER PATIENTS CARED FOR BY THE BOSTON COMMUNITY HEALTH ASSOCIATION, 1922-1926.



[1] Numbers will be found in Table 3.

Cost of assistance in home care of cancer patients.

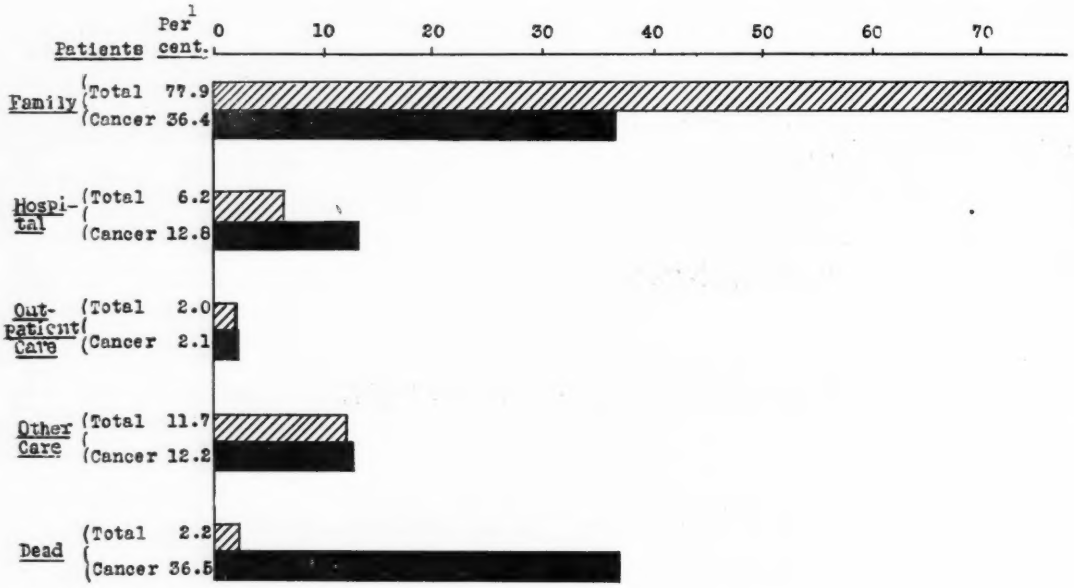
About one visit out of every thirty-five made during the past five years by nurses of the Boston Community Health Association has been to cancer cases. (Table 3.) A total of 27,632 visits, or an average of over five thousand per annum, was required for this part of their services. The average number of visits per patient was 5.7 for all those cared for, and 18.2 for the cancer pa-

tients. The average per patient for the sample group of closed cases was 28.4, but over half received less than ten, and nearly a third (30 per cent.) less than five visits. The average was raised by five patients each of whom was attended over 200 times—one received 1080 visits. The total services given mount to a formidable figure, yet it is evident that the bulk of care must be by amateur, home nurses.

Eighty-five cents per visit was the fee usually charged patients able to pay, or was the amount paid by the two insurance companies which supplied this service to policy holders. The cost per visit to the Association has varied during the five years studied, but has approached one dollar. A total of 5,934 visits were made to a group of 209 cases studied intensively, for which the patients and insurance companies paid $2,417.20. Thus about forty per cent. of the services were paid for and the Association contributed the remaining sixty per cent. The tremendous cost of the care of cancer patients is evident when the limited services given by this one organization for a period of five years are found to mount to $27,600, of which approximately $16,500 could not be paid from resources of the patients or their families. Yet no one familiar with the history of the disease can be satisfied that the care given these sufferers was adequate to their needs. Does this present a situation with which private philanthropy cannot cope? Massachusetts legislators have provided for a State cancer hospital and for clinics in important population centers. Will it be necessary to give public assistance also in order to provide more fully for adequate home care?

CHART II.

TYPES OF CARE TO WHICH PATIENTS WERE TRANSFERRED AFTER DISCHARGE FROM THE BOSTON COMMUNITY HEALTH ASSOCIATION - ALL PATIENTS AND CANCER PATIENTS, 1922 - 1926.



[1] Numbers will be found in Table 4.

SUMMARY OF CONCLUSIONS

Terminal care of cancer patients must be given chiefly in their homes, both because of the difficulty of supplying the large number of hospital beds needed for cancer victims and because many who die of cancer—particularly women—will refuse to be separated from their families when stricken with a mortal disease.

The persons most subject to cancer come chiefly from population groups with small earning capacity; a high proportion have little or no income and inadequate resources from savings and insurance. Their earlier family ties frequently have been broken, so that they may live as dependents with a younger generation. They often are in homes where space and incomes are insufficient for growing children, and where no help can be employed for household tasks. Expensive medical and nursing care is impossible, and they even hesitate to make full use of the relatively inexpensive services of visiting nurses.

Varied and difficult nursing care is demanded by terminal cancer patients. Special expert services may be given by visiting nurses, but these fail to meet adequately the needs of the patients. Careful instruction of the inexperienced persons, who must be depended on to give the continuous care required, is an indispensable part of any program aimed at the prevention of unnecessary suffering by the unfortunate victims of cancer.

Although the Boston Community Health Association is making a generous contribution to the home care of cancer patients, it is evident that the services which can be supplied by such a privately-supported organization must fall short of what a civilized community might wish to guarantee to this group of sufferers. Private philanthropy may be unable to meet this social need, so that in the future public support, which has been enlisted to supply hospital care, may be required also in order to make possible adequate home care of cancer patients.

CONNECTICUT STATE DEPARTMENT OF HEALTH

APPROVED LABORATORIES

In accordance with Regulation 40 of the State Sanitary Code all those operating laboratories for diagnostic purposes (except laboratories operated by physicians for their personal convenience) "must register annually with the State Department of Health giving the name of such laboratory, its location, and name of person or persons owning or operating the same". After inspection, "laboratories that are found to conform to the standards required by the State Department of Health will be given a certificate of approval".

The work of inspection has continued since 1924 and the thirteen laboratories in nine towns approved at that time have now increased to twenty-four in fourteen towns in 1928.

In addition all laboratories making bacteriological milk and cream examinations must be approved, according to Legislative acts of 1925. Nine of these were approved in seven towns in 1928.

Laboratories so approved appear in the following lists, those starred being approved for diagnostic work under the Sanitary Code and for milk examination under the State Statutes:

DIAGNOSTIC LABORATORIES APPROVED

City Department of Health Laboratory	Bridgeport
Bristol Hospital Laboratory	Bristol
Griffin Hospital Laboratory	Derby
Greenwich Hospital Laboratory	Greenwich
Laboratory of Dr. Chas. T. Beach	Hartford
The Hall Wilson Laboratory of the Hartford Hospital	Hartford
Travelers Insurance Company Laboratory	Hartford
Trinity College Bacteriological Laboratory	Hartford
*City Department of Health Laboratory	Hartford
*Newlands Sanitary Laboratory	Hartford
The Lucy A. Peck Pathological Lab. of the Meriden Hospital	Meriden
Laboratory of Connecticut State Hospital for Insane	Middletown
*City Department of Health & Middlesex Hospital Labs.	Middletown
*City Department of Health Laboratory	New Britain
Grace Hospital Laboratory	New Haven
*City Department of Health Laboratory	New Haven
Laboratory of Lawrence & Memorial Associated Hospitals	New London
W. W. Backus Hospital Laboratory	Norwich
Laboratory of Norwich State Hospital for Insane	Norwich
Manchester Memorial Hospital Laboratory	So. Manchester
Laboratory of Cheney Brothers	So. Manchester
Stamford Hospital Laboratory	Stamford
City Department of Health Laboratory	Stamford
Charlotte Hungerford Hospital Laboratory	Torrington

LABORATORIES APPROVED FOR MILK EXAMINATION

Laboratory of Mitchell Dairy Company	Bridgeport
Bridgeport Department of Health Laboratory	Bridgeport
Brook-Hall Dairy Company Laboratory	Hamden
Hartford Department of Health Laboratory	Hartford
Newlands Sanitary Laboratory	Hartford
City Department of Health & Middlesex Hospital Labs.	Middletown
New Britain Department of Health Laboratory	New Britain
New Haven Department of Health Laboratory	New Haven
Waterbury Department of Health Laboratory	Waterbury

COMMON FALLACIES ABOUT CAUSES OF CANCER

Dr. George A. Soper of the American Society for the Control of Cancer reports several popular fallacies with respect to the causes or treatment of cancer. Among recognized mistaken beliefs are the following: Too much salt, too little salt, vitamin starvation, too much food, the eating of tomatoes and meat, especially pork. Some blame coal smoke, glaze from enamel or aluminum utensils and too sedentary occupations.

Dr. Soper believes that no sudden discovery of the cause or cure of cancer is likely to be made.

The Society will publish statistics relating to the prevalence of cancer during this year up to 1927.

A symposium on cancer will be held in New York City soon and recently endorsed theories either for prevention or cure will be discussed by prominent specialists.

A POSTER COMPETITION FOR A DESIGN TO BE USED IN THE CANCER CAMPAIGN

The American Society for the Control of Cancer in conjunction with the Art Alliance of America will receive competitive designs to be used on posters in the Cancer Campaign. Three cash prizes of $500, $250 and $100 have been provided for the best designs.

The jury of award includes Charles D. Gibson, Conde Nast, Elmer Brown Mason, F. J. Rigney, F. de S. Casey, Ray Greenleaf, S. W. Reyburn and Alon Bement.

Particulars may be obtained on application to the New York City Committee of the American Society for the Control of Cancer, 34 East Seventy-fifth Street.

MASSACHUSETTS TUBERCULOSIS LEAGUE

At the Annual Summer Health Camp Meeting held at the Hotel Bancroft in Worcester by the Massachusetts Tuberculosis League, Mr. William N. Leonard, Boston Medical Publisher, and Dr. Nahum R. Pillsbury, Superintendent of the Norfolk County Hospital, were the principal speakers.

Mr. Leonard reported interestingly on the activities of the Cambridge Health Camp, expressing his confidence that Massachusetts would set before the country the same example of leadership in Summer Health Camps that it has always in every department of the educational program.

Case Records
of the
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 14051

HICCUP, VOMITING AND PALPITATION

MEDICAL DEPARTMENT

A milkman fifty-two years old entered January 19.

He was a perfectly healthy man until the first of the previous August. Then he suddenly began to have nausea and to vomit all food. He could eat a full meal without pain, but in a short time or the following day or sometimes on the second day he would vomit all he had eaten. August 7 and 16 he was operated upon in a hospital in a neighboring city. Following this he retained very little by mouth and vomited black-brown material at times. September 21 he was operated on a third time with great relief. A letter from his physician gave the information that at the first operation a gastro-enterostomy was performed. Later post-operative peritonitis was drained. Finally obstruction by adhesions was relieved. Rectal examination showed two external hemorrhoids. By November 1 he was eating heartily, chopping wood and as strong as anyone. December 25 he suddenly became dyspneic, short of breath, and began to have hiccup, vomiting and palpitation. He was unable to do much on account of dyspnea on exertion. He slept very little. He used several pillows but had no orthopnea. He had considerable nycturia for the first time. He dreamed repeatedly that he was walking the street and could get no water. He hiccuped continually and vomited nearly all food. For three weeks he had taken nothing but scalded milk and water. January 16 when in bed he suddenly vomited a cup and a half of bright blood. Since that time he had had two or three watery bloody movements daily.

His father died of heart disease, his mother of "dropsy, jaundice and heart trouble."

He had had scarlet fever, three attacks of gonorrhea, the last at thirty-seven, a hard chancre at thirty-four followed by a rash. He had had strictures with operation. He had taken no liquor for five years. Before that he drank eight or ten glasses of whiskey a day, two glasses before breakfast, and had a drinking bout once in six months.

Clinical examination showed a fairly developed and nourished, anemic looking man with occasional hiccup. There was no evidence of great loss of weight. The breath had a marked fruity odor. The skin showed a very slight yellow tint. Mucous membranes pale. Apex impulse of the heart in the fifth space 16 centimeters from midsternum, 4.5 centimeters outside the nipple line, corresponding with the left border of dullness, localized and tapping but fairly forcible, although there was marked irregularity in force. Right border of dullness 4 centimeters in the third interspace. No retromanubrial dullness. Rate at apex 180. Sounds sharp, short and snapping. Pulmonic second sound not heard at apex; greater than aortic second; both distant. (Thick chest wall.) No definite murmurs. Systolic blood pressure 110. Pulses equal, synchronous, markedly irregular in force, rhythm and rate, many beats not reaching the wrist. Small volume, normal tension. Artery walls a little thickened. Chest somewhat barrel shaped. Expansion poor. Transient medium râles scattered over the upper half of both lungs. Two linear operation scars from xiphoid to umbilicus. No masses or marked tenderness. Pupils and knee-jerks normal.

Temperature 99.2° to 96.4° with a terminal rise to 101.3°. Pulse 67 to 112. Respirations 20 to 24 with a terminal increase to 40.

Urine normal in amount, specific gravity 1.011 to 1.017, no albumin, sediment negative. Blood: 18,600 to 12,000 leukocytes, 86 to 83 per cent. polynuclears, hemoglobin 75 to 55 per cent., reds 3,000,000, moderate variation in size and shape. Wassermann not recorded. Stools red-brown or black at two of three examinations, guaiac positive or strongly positive at all of five. Vomitus brown at one of two examinations, thick coffee-ground sediment at another, guaiac positive or strongly positive at both, free hydrochloric acid at both.

The condition of the patient on admission was alarming. Later he lay in a mild stupor most of the time, but at times was remarkably bright. He retained his food well and slept well. The stools at first showed small amounts of fresh blood, perhaps from hemorrhoids. January 22 his bladder filled up and he had to be catheterized. Three strictures of moderate size were found. He was put on constant drainage. By January 29 he was vomiting two or three times a day. He slept with sedatives only two hours a night. A surgical consultant thought the patient could not stand operation. The strictures were treated by the South Surgical Department. For the next three days the patient vomited everything eaten. The vomitus was coffee grounds. He gradually failed. He had no pain. The heart beat was rapid and slapping, fairly forcible at first. The apex beat was practically always above 170. There were numerous extrasystoles. There was no marked respiratory

arrhythmia. He had no edema or ascites. February 2 he died.

Discussion

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY

The history up to the point of the first examination in this hospital is of gastric symptoms leading to three gastric operations, the first of which was a gastro-enterostomy. At this date there were a good many more gastro-enterostomies done without organic disease in the stomach than there are now, so that we cannot be sure that they found either ulcer or cancer or any other organic disease at the time they did that first operation.

What went on later, when he had this sudden dyspnea and hiccough? It does not seem as if that could be due to gastro-intestinal disease alone. It seems as if there must be some heart or kidney trouble or both, to produce these symptoms, if they are correctly reported. It is a queer history, with a good deal to suggest to me that it is not correct. In the sudden vomiting of blood we have a history which might go with cirrhosis of the liver,—an entirely independent disease.

So that the possibilities in my mind as I begin to read the physical examination are of gastric ulcer or cancer, more probably ulcer, of some cardiac trouble with or without renal trouble, and of cirrhosis of the liver.

NOTES ON THE PHYSICAL EXAMINATION

If this record is correct we have an enormous enlargement of the heart and may connect that with the dyspnea complained of shortly before his entrance.

We should like to know a little more about the urine, but all the evidence we have is against the presence of any renal disease.

There is a moderate secondary anemia from loss of blood.

These stomach examinations are consistent with some stomach disease, more probably ulcer than cancer in view of the presence of hydrochloric acid.

Whether the operation was to be on his prostate or on his urethra or whether they were going to try to do something more to his stomach I do not know.

It is striking that there is so little evidence of passive congestion in spite of such apparently poor heart action.

DIFFERENTIAL DIAGNOSIS

I feel quite uncertain as to what is to be found here. We can be relatively certain that an enlarged and presumably weakened heart was part of what ailed him. There is no evidence of any valvular disease. I think we should say, therefore, that it is a case of the commonest type of heart trouble, namely, hypertensive, although he has not at present any hypertension. Then, although he has this local trouble in his urinary tract, I do not see how that can have any particular relation to his death. He was in such poor condition that he could easily have the urinary symptoms here described without there being anything to affect him seriously.

As to what is to be found in his stomach, I do not think I can say anything more, because this case came before the days of X-rays and shows how much we have come to depend on them. There was vomiting of altered blood. That ought to mean an organic lesion, ulcer or cancer. As he lived to fifty-two without any symptoms, there is a good deal to suggest cancer. On the other hand he is not emaciated. There is no evidence of great loss of weight, and he has had hydrochloric acid in his stomach contents. I feel in doubt as to what is wrong in his stomach. There seem to me three possibilities, ulcer, cancer, and nothing at all, the last not so probable in view of the amount of blood that he seems to have vomited. But between ulcer and cancer I think we have not enough evidence to decide.

At his age, with so short a history, is it safer to say cancer? Against that is the fact that he got so much relief after one of his operations that on the first of November previous to the January when he came here he was said to be as strong as ever. That does not seem at all probable with a patient with unrelieved cancer of the stomach.

As to the possibilities of cirrhosis of the liver which I spoke of earlier, we are given nothing in the way of information from our examination in this hospital. Nothing is said about his liver. He does not show any ascites, which so far as it goes is against cirrhosis. I think we had better say nothing about cirrhosis in our clinical diagnosis.

All that I can feel any confidence about is a hypertrophied and dilated heart, presumably without valve lesion, and some organic stomach lesion, as to which I am rather equally divided between ulcer and cancer, perhaps favoring ulcer a little.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Obstruction near the pylorus.
Cardiac dilatation and hypertrophy.
Paroxysmal tachycardia.
Myocarditis?
Secondary anemia.
Cirrhosis of the liver?

DR. CABOT'S DIAGNOSIS

Hypertensive heart disease.
Hypertrophy and dilatation of the heart.
Gastric ulcer ?
Gastric cancer ?
Secondary anemia.

ANTOMIC DIAGNOSES

1. *Primary fatal lesions.*

Syphilitic aortitis.
Slight fibrocalcareous endocarditis of the aortic valve.

2. *Secondary or terminal lesions.*

Hypertrophy and dilatation of the heart.
Chronic passive congestion, general.
Thrombus in the right auricular appendix and branch of the right pulmonary artery.
Infarcts of the right lung.
Hydropericardium.
Acute fibrinous pericarditis, terminal.
Hydrothorax.
Septicemia, streptococcus.
Leukoplakia and erosions of the esophagus.

3. *Historical landmarks.*

Chronic pleuritis, left.
Scars of old operation wound, gastro-enterostomy.
Chronic localized peritonitis.

DR. TRACY B. MALLORY: The anatomical findings do not help us much in explaining the symptoms of this case.

The scars of two old operations were found in the abdominal wall, and two anastomoses had been made in the intestines, one a posterior gastro-enterostomy and another a lateral anastomosis of two loops of ileum. The posterior gastro-enterostomy was not made between the stomach and the duodenum but between the stomach and one of the very lower loops of ileum, and probably the second operation was the lateral anastomosis of the ileum which seems to have relieved him to some extent.

The stomach showed a rather thickened pylorus but no ulcer, no carcinoma, and no source for bleeding. It is possible that that thickening of the pylorus represents a healed ulcer, although apparently no definite evidence was found.

The most important finding was an enlarged heart, over 500 grams, with considerable arteriosclerosis of the aortic valve, and also a greatly dilated aorta with the characteristic appearance of luetic aortitis. So that it is not utterly impossible that his gastric symptoms might have been tabetic. The liver showed passive congestion. His lungs showed numerous infarcts, one as big as four centimeters in diameter, and I think probably the blood must have been coughed up rather than vomited. He had an acute terminal septicemia with streptococcus, and an acute purulent pericarditis. It is a rather blind case.

DR. EDWARD L. YOUNG: You speak of a thickened pylorus. Is there such a condition as a primary hypertrophy of the pylorus coming on in adult life with symptoms of obstruction? I have met that twice clinically, did resection of the pylorus for what I thought was cancer, and had the report come back both times that it was a fibrosis with obstruction of the pylorus.

DR. MALLORY: I don't know. We certainly see a great deal of variety in the diameter of the pylorus at post-mortem. Sometimes it seems quite narrow, but ordinarily I have assumed that real fibrosis was presumably the result of a healed ulcer. You probably see more of that than I, Dr. Dresser.

DR. RICHARD DRESSER: We do see cases in which we have stasis in the stomach and a good deal of spasm in the region of the pylorus with no organic lesion of the stomach or duodenum demonstrable. Perhaps some of these cases really have a fibrosis such as Dr. Young has mentioned, but I have never been able to make this diagnosis.

CASE 14052

AN UNUSUAL CAUSE FOR A FATAL OUTCOME

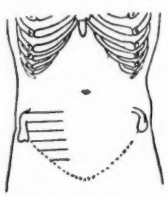
SURGICAL DEPARTMENT

A sixteen-year-old American schoolboy entered January 7.

For ten days he had had moderately severe non-radiating pain in the right lower quadrant and had felt a little feverish. His appetite had been poor and his bowels irregular. For the past four days he had felt ill enough to stay quietly at home.

No past history was obtained except that this was apparently his first attack.

Clinical examination. Well nourished. Throat injected. In the right lower quadrant was a visible swelling (see diagram), apparently a mass



the size of an orange, very tender on deep palpation. There was moderate rigidity and moderate rebound tenderness over the mass. Rectal examination showed tenderness in the right iliac fossa; no mass.

Before operation chart and urine not recorded, leukocyte count 12,400.

January 7 operation was done. The patient made a good ether recovery. That night the temperature rose to 102°. Two days later it was normal and he was said to pass a little gas. He was taken out of Fowler's position and given fluids freely. In the afternoon he vomited two or three times. After a stomach lavage he felt well. January 11 he complained of a little pain in the lower abdomen. Some peristalsis was audible. He looked better. The chart was normal.

The afternoon of January 12 the temperature rose to 104°, the pulse to 160, the respirations to 40. His skin was cold, clammy and slightly cyanotic. The blood pressure was 90/40. The pulse was feeble and thready. There was slight dullness in the right chest. The abdomen was slightly tender throughout, with moderate spasm. He complained of no pain. There was no distention. Rare peristalsis was heard. A portable chest plate showed pneumothorax of the right pleural cavity with almost complete collapse of the right lung. The left lung field was less radiant than normal. Both diaphragms were high. The patient steadily failed, became comatose and that night died.

Discussion

BY EDWARD L. YOUNG, JR., M.D.

There are various things that can be considered here, but I believe in a sixteen-year old boy the acute onset of a condition which has left a tender mass in the right lower quadrant with leukocytosis stands a very high chance of being an acute appendix with either an abscess around the perforated appendix or a heavy cake of omentum and edematous gut around the non-perforated appendix. A psoas abscess coming to the surface at that point is possible without previous symptoms pointing toward the back. A suppurating mesenteric adenitis is possible. A non-tuberculous psoasitis with an abscess is also possible. But I think that all three of those are rather poor second diagnoses. I should say from the description here that it was an appendix abscess, and the thing to do was to open it.

In a boy of this age, having had it for ten days, if that is the diagnosis the prognosis ought to be good, because a young person will get away with an untold amount of peritoneal sepsis.

Dr. Cabot: Is it possible that you ought also to consider tuberculous peritonitis, cecal trouble, do you think?

Dr. Young: Other than a mesenteric adenitis?

Dr. Cabot: In the cases I refer to we hear more about the localization in the cecal region.

Dr. Young: That is true, and a tuberculous peritonitis, if it did this, ought to have a secondary infection I think to give this picture of abscess formation. I do not think we can rule it out.

Dr. Young's Pre-operative Diagnosis

Appendix abscess.

Pre-operative Diagnosis

Appendix abscess.

Operation

Gas-ether. Through a low right rectus muscle splitting incision the peritoneum was opened without incident. The mass which had been easily palpated before operation was encountered directly under the anterior abdominal wall. This mass was broken into on the lateral aspect of the cecum, the remaining part of the abdomen having first been carefully walled off. About three ounces of free fluid pus came from the abscess cavity. In an attempt to locate the appendix some omentum was removed. A fecalith free in the abdominal cavity was also found and taken out. Because of the extensive walling off of the abscess cavity it was thought unwise to persist in the attempt to find the appendix A wick was placed in the pelvis and one to the lateral wall of the cecum and the wound closed.

Further Discussion

I think that is very good judgment, because if the sepsis is cleared up with drainage and a secondary appendectomy is necessary it is a safe thing to do later as compared with the risk of spreading virulent pus in the peritoneal cavity, which is up to the present time not infected.

On January 11, under normal conditions, we would consider this boy out of the woods and not worry about further trouble.

I think I saw this boy. I am not sure that this is the one, but if it is my reaction up to this point was just as I have said, that he was entirely out of danger. Then when this upset came it did not seem as though it were peritonitis because of audible peristalsis and lack of distention. At the same time, however, we recognized the fact that at necropsy peritonitis is very often reported when we do not get clinical evidence of it in the wards. Then the signs in the chest resulted in the chest plate.

Dr. Richard Dresser: In the left chest we see a very normal picture, the lung markings extending well out toward the periphery. Comparing the right side we see a very different picture. The periphery is very much darker than the corresponding area on the left, and there is a total absence of lung markings in this area. The lung markings run out to about the mid-chest, and at this point we see a sharply defined margin which we presume is the edge of a collapsed lung. We would have no hesitancy in making a diagnosis of pneumothorax with collapse of the lung on the right side.

Dr. Young: What would the picture be if it were massive collapse?

Dr. Dresser: We should get a mediastinum coming over to fill in the space, also the diaphragm coming up. That would give complete dullness on the right side with the diaphragm outline obscured. Very often the dullness extends over the whole side of the chest. If the collapse is only partial we may see some normal lung in the upper portion of the chest.

Dr. Cabot: Is the liver lower on the right than it ought to be?

Dr. Dresser: I should say it is normal.

Dr. Cabot: Why doesn't it come down if that chest is full of air? I thought the liver and

diaphragm ought to go down if we had a pneumothorax.

DR. DRESSER: Perhaps the heart shadow has been displaced to the left, although there is so much rotation in the film that I cannot be sure of that. The position of the diaphragm is not abnormal.

DR. YOUNG: The reason I asked the difference between this and massive collapse is because we have been getting an extraordinary number of massive collapses of the lung following all kinds of operation. We had three to report in two weeks, one following a novocain operation, one following manipulation of a dislocated shoulder, and one following abdominal operation. We cannot figure why they are coming. But this is a very different picture. Dr. Cabot, how far ought this condition to be important in the fatal result here?

DR. CABOT: I should think it was a sizable factor. I do not see why not.

DR. YOUNG: I cannot see at least why he should have gone out with the picture I saw just before this X-ray was taken, unless there was one of the atypical peritonitis cases that we have learned to know do come as we check up here in the necropsy room.

I do not know what the final diagnosis will be, but in view of the X-ray of the chest, the condition there, and what Dr. Cabot says, I would like to assume that after four days of going along pretty well Dr. Mallory will report the peritoneal cavity pretty clean.

DR. CABOT: Do you want to hazard a guess as to what gave him a pneumothorax?

DR. YOUNG: I have no guess at all. I do not know enough about the mechanism to venture one. Dr. Mallory, can you help us out?

DR. TRACY B. MALLORY: Not on that.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Appendix abscess.

DR. EDWARD L. YOUNG'S DIAGNOSIS

Appendix abscess.
Pneumothorax.

ANATOMIC DIAGNOSES

Acute appendicitis.
Perforation of the cecum.
General peritonitis.
Bronchopneumonia.
Pneumothorax.

DR. MALLORY: On opening the chest cavity a sudden rush of air was noted, presumably outward from the pleural cavity. Unfortunately it was not done under a water seal, so that we have no absolute proof of it.

The left lung was held in place by adhesions. The right lung was completely collapsed and showed a few minute nodular areas of consolidation.

The peritoneal cavity was full of pus; that is, a great many areas of pus were found on the superior surface of the liver between the liver and the diaphragm, also in the pelvis, also a rather localized area in each flank. The appendix which the surgeons were unable to find at operation we were also unable to find. We found the mouth of it, which was occluded by a fecalith. The peritonitis however seemed not to arise from the appendix-stump, which was well walled off, but from a fresh perforation in the cecum near it. There were no other noteworthy findings.

DR. CABOT: There were no holes in the diaphragm?

DR. MALLORY: No, no etiology for the pneumothorax was found.

DR. YOUNG: Is it possible that that peritonitis, as you saw it, might have been a remnant of his original perforation sixteen days before?

DR. MALLORY: That seems a little bit long. I should have estimated it at about five days' to a week's duration.

DR. YOUNG: The second perforation which you speak of in the cecum is an unusual finding, and I cannot see how it could have been foreseen or avoided.

NEW YORK CITY MOSQUITO CAMPAIGN

New York City has appropriated $83,000 for controlling the mosquito nuisance but the United States Public Health Service reports that $100,000 more should be expended. This advice was based on a survey conducted by J. A. LePrince, senior sanitary engineer.

A force of about fifty men are at work cleaning out ditches which were dug to drain stagnant pools.

Additional ditches will be dug and in April oil will be poured on all suspicious bodies of water and swamps.

ANOTHER VITAMIN

Dr. Hubert M. Evans of the University of California claims to have discovered another vitamin which is the sixth and will be designated as F.

This vitamin Dr. Evans believes is essential for normal animal growth.

This demonstration was made by feeding rats with pure food consisting of purified casein and recrystallized cane sugar with the necessary salts and five previously known vitamins. Under this diet the rats grew to only half the normal size. Lettuce and liver were found to be most potent in promoting normal growth.

Dr. Evans was assisted in his investigations by Dr. George O. Burr, chemist at the University of Minnesota.

DR. SOKOLOSS TO ENGAGE IN RESEARCH WORK AT ROCKEFELLER INSTITUTE

Dr. Boris Sokoloss, a former Deputy in the North Russian Government who has paid especial attention to cancer research, is in this country and will continue his work in the Rockefeller Institute.

In an interview Dr. Sokoloss said that it is too early to speak of a cure for cancer but progress is being made.

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A HOME FOR THE MASSACHUSETTS MEDICAL SOCIETY

AT the last meeting of the Council of the Massachusetts Medical Society, a committee was appointed to consider Ways and Means of acquiring a permanent home for the Massachusetts Medical Society, and to solicit funds to acquire such a home if it deemed it advisable. The Committee was empowered to appoint subcommittees from the District Societies. This committee has voted that a permanent home in Boston for the Society is a most desirable thing and that sub-committees from the District Societies should be appointed to raise funds for such a purpose.

At present the offices used by the Society are inadequate and the rent paid for them amounts to a considerable sum. The activities of the Society especially of the JOURNAL, are increasing rapidly, and enlarged quarters are imperative. It seems to the committee that it is desirable for the Massachusetts Medical Society to own its own building in Boston. This building would house the offices of the JOURNAL and various officers of the Society. It would provide adequate room for Council and committee meetings and for medical gatherings of various sorts. It would provide definite headquarters for varied medical activities throughout the State and New England. It would serve as headquarters with some advantages of a club for members of the Society. Such a building could be made virtually if not actually self-supporting and thus benefit the Society. The Committee voted to launch a campaign to raise $125,000.00. For this sum we can purchase a most desirable building, equip it and provide the nucleus of a sinking or endowment fund. It is the idea of the committee not to limit the amount of money to be raised. Any sum over and above the amount actually to be used for purchase and equipment of the home would be added to the endowment fund.

WAS IT AN ACT OF PIETY?

WHEN John Hunter came to his tragic end, Wednesday, October 16th, 1793, he left behind him an "enormous quantity" of manuscripts, as well as the museum specimens, which were taken care of by his boy, William Clift, aged eighteen. Clift had been with Hunter only a year, making drawings, dissecting and taking his part in the charge of the museum; for the next fifteen years he lived in poverty in the dreary Castle Street house, keeping things together and transcribing some of the precious manuscripts. In 1806 the collection was removed from Castle Street to the house of the new Royal College of Surgeons, Lincoln's Inn Fields, where by 1813 it was properly arranged. The manuscripts, in the meantime, were taken by Clift to the house of Sir Everard Home, the acting executor of Hunter's will. For twenty-three years, from 1800 to 1823, the manuscripts remained in the possession of Home and during this period, "he (Home) conveyed from them what he wanted into numerous papers that he read before the Royal Society, and into his 'Lectures on Comparative Anatomy'; then, in July, 1823, having made this use of Hunter's writings as material for his own advancement, he burned them" (Stephen Paget). Clift's side of the story was set out, in 1834, before the Parliamentary Committee on Medical Education (*Lancet*, July 11, 1835). According to Clift, Sir Everard Home burned the notes and nearly set fire to his own house in the bargain, the same week "that Sir Everard had received back from the printer the last proof of his second volume of 'Lectures on Comparative Anatomy': and I knew that he had used these papers very largely in the preparation of that work." Home, of course, defended himself. He said that Hunter, when he was dying, told him to destroy the manuscripts as they were in such a state that they were unfit for publication; but Hunter had

so prized them that three of the folios were put at his side when Reynolds painted him. Although he (Home) said he had destroyed every one of the manuscripts, when the trustees brought pressure to bear, he returned several (Paget). Home was sixty-seven at the time; he had been President of the Royal College of Surgeons, twice Hunterian Orator, Surgeon to the King, a Baronet, and was Mrs. Hunter's brother. How could a man of his standing commit such an infamous act of vandalism? Paget thinks "he got weary of the sight of the manuscripts, and persuaded himself that they might be burned, now that Hunter had been dead for thirty years. Unhappily for his good name, he had made use of them in his own writings". Sir Benjamin Brodie (Hunterian Oration, 1837) thought that, "as he grew old, he became, I believe, the subject of one of those forms of senile degeneration in morality against which all men growing old need to guard. He stole from the Hunterian manuscripts, and then burnt them, after publishing many of Hunter's observations as his own." Home died in 1832, Clift in 1849 and there the matter has stood since Clift's testimony in 1834. No one has offered any other explanation for Home's extraordinary conduct; he stole the material and nearly succeeded in destroying the evidence.

One hundred and five years after Sir Everard threw the precious folios into the fire, the best Hunterian scholar of our day, Sir Arthur Keith, Curator of the Hunterian Museum, London, comes forward with a new explanation of Home's act. He writes, at the end of a most delightful sketch on "The Bicentenary of John Hunter" (*Nature*, February 11, 1926): "There would have been no record left if Sir Everard Home had had his way. That any record was preserved at all of Hunter's real thoughts is due to William Clift. Home burned Hunter's original manuscripts, the usual explanation being that he had pilfered from them. A close study of the conventional character of Sir Everard Home and of the circumstances which surround this infamous act of vandalism have convinced me that the accepted explanation is not the true one. Home shared implicitly in the religious beliefs of his time and never doubted that by destroying all evidence of Hunter's heretical convictions he was performing an act of piety on behalf of the world in general and for the memory of his brother-in-law in particular." Sir Arthur Keith expresses the opinion, also, that "Hunter's inquiries had made him a pagan; he could not harmonize what he found in the realms of Nature with what his inquiries revealed to his own eyes. He silently and resolutely thought and wrote as if the book of Genesis had never been in existence." Even Sir Richard Owen, Clift's son-in-law, felt that he ought to apologize for Hunter's heretical beliefs and perhaps Keith is right in thinking that Home, by burning the manuscripts, felt that he was performing "an act of piety".

VARIED FUNCTIONS OF THE UNITED STATES PUBLIC HEALTH SERVICE

A RECENT report submitted to Congress by Surgeon General Cummins shows the practical way in which coöperation is effected between the Public Health Service and other governmental bureaus and departments and with unofficial agencies.

Such coöperation, all of which is designed to advance the public health, has been the long-standing policy of the Public Health Service as the health agency of the nation. Some of this work, according to the report, is specifically required by law; the remainder is sanctioned by efficiency of administration. Thus the highly specialized professional personnel of the Public Health Service is segregated into a compact unit for administrative purposes, and is so organized that it can be drawn on for expert help whenever it is needed in any other branch of the Government. The building up of new professional units in the various departments at great overhead expense and with inevitable duplication of work and lack of coördination is thus obviated.

Among the important ways in which this coöperation is affected may be listed the following:

1. The Department of State: Medical examination of aliens prior to the granting of visas; medical treatment of destitute seamen returned from abroad; administration of foreign quarantine regulations.

2. Other branches of the Treasury Department in furnishing medical and sanitary advice to the United States Coast Guard; in issuing permits to ships for medicinal liquor and narcotics; in the studies of the lighting of rooms in buildings of the Treasury Department, Coast Guard and Bureau of Mines; in aiding the Customs Division in preventing violations of the quarantine act because of failure of masters of vessels to secure consular bills of health; and in issuing port sanitary statements to outgoing vessels.

3. The Department of Commerce in physical examinations and instruction in first aid of applicants for licenses as ships' officers, at the request of the Steamboat Inspection Service; in the treatment of persons attached to vessels and stations of the Lighthouse Service, vessels of the Coast and Geodetic Survey; furnishing medical supplies to lighthouse vessels; in studies of occupational health hazards among certain employees of the Bureau of Standards; inspection of Government office buildings in the District of Columbia; in studies of problems of sanitation in the mining industry in connection with the Bureau of Mines.

4. The Interior Department in administration of medical and sanitary service to the Indian Bureau and assistance in the sanitary supervision of the National parks.

5. The Department of Labor in the medical examination of arriving aliens and quota aliens

prior to granting of consular visas, and treatment of detained aliens.

6. The Civil Service Commission in physical examinations of applicants for employment, reinstatement and for retirement.

7. The United States Employees' Compensation Commission in advising with regard to medical problems connected with compensation and hospital and out-patient treatment of injured Federal employees; in physical examinations and special investigations in the case of special claimants; medical assistance in carrying out the Longshoremen's and Harbor Workers' Compensation Act.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

BIGELOW, GEORGE H. A.B., M.D. Harvard 1916, Doctor of Public Health 1921, Commissioner of Public Health of Massachusetts. His subject is: "Are 'Alcohol Deaths' Due to Alcohol". Page 227. Address: State House, Boston.

LYTHGOE, HERMANN C. B.S. Director Food and Drug Division and Analyst of the Massachusetts Department of Public Health; Past President, Association of Agricultural Chemists; Past Chairman, Northeastern Section, American Chemical Society. His subject is: "The Character of The Illicit Liquor Upon the Massachusetts Market". Page 228. Address: 530 State House, Boston.

HUNT, REID. A.B., Ph.D., M.D. University of Maryland 1896; Professor of Pharmacology, Harvard Medical School; Consultant in Pharmacology Massachusetts Department of Public Health; Formerly Associate Professor Pharmacology, Johns Hopkins Medical School; Chief of Division of Pharmacology, Hygienic Laboratory, United States Public Health Service, etc. His subject is: "An Examination of the Toxicity of One Hundred Samples of Illicit Liquor". Page 230. Address: Harvard Medical School, Boston.

CHEEVER, AUSTIN W. A.B., M.D. Harvard Medical School 1914. Chief of Service Skin and Syphilis Department of the Boston Dispensary; Dermatologist at the Cambridge Hospital and the Brockton Hospital. His subject is: "The Ideal Syphilis Clinic". Page 234. Address: 472 Commonwealth Avenue, Boston.

YORSHIS, MORRIS. M.D. Tufts Medical School 1925. Former House Officer Neurological Service at the Boston City Hospital; Former Assistant in the Metabolism Clinic at the Boston City Hospital, Out-Patient Department; Former Teaching Assistant at Tufts College Medical School in the Department of Neuropathology; Interne at the Worcester State Hospital. His subject is: "A Case of Syringomyelia and Neurosyphilis". Page 236. Address: Worcester State Hospital, Worcester.

SMITHWICK, M. P. A.B., M.D. Harvard Medical School 1895. His subject is: "Control of Blood Supply in Tonsillectomy". Page 239. Address: 483 Beacon Street, Boston.

EAVES, LUCILLE. A.B., M.S., Ph.D., Professor of Social-Economic Research, Simmons College; Director of the Research Department, Women's Educational and Industrial Union; Formerly Professor at the University of Nebraska, Lecturer at the University of California, Instructor at Stanford University. Her subject is: "Nursing Cancer Patients in Their Homes". Page 240. Address: 264 Boylston Street, Boston.

THE STATUS OF THE PHYSICIAN AND THE HOSPITAL IN INDUSTRIAL ACCIDENT CASES

THE Workmen's Compensation Law has been in operation for fourteen years. Changes have been made since it was enacted. In 1927 a special commission reported upon their investigations regarding the operation of the Law (House 999, 1927).

Two matters particularly are of interest to physicians,—the payment of hospital charges and the payment for professional services in hospital cases.

In the report of the Special Commission of 1927 (Page 10) is the following recommendation:

"Such hospitals as take and treat industrial accident cases—and they include most of the hospitals in the Commonwealth—insist that they should be paid the cost to them of their services. The Commission believes that this is the right principle. A hospital should not be forced to do charity in industrial cases; and the full expense of the medical care of industrial cases should fall where the expenses of compensation fall, so that both together may be included in the insurance required by the Act."

The Commission points out, however, the difficulties and inadvisability of allowing each hospital to charge its own actual cost.

Further in the report (Page 12) is the following:

"The Commission has been asked to define the right of hospital physicians who care for industrial accidents in their hospitals to fees. These physicians serve their various hospitals under regulations made by the board of trustees, etc., of each hospital, and the Commission considers that it is to these boards, etc., rather than to the Industrial Accident Board or to this Commission, that aggrieved members of the various hospital staffs should appeal. No recommendation, therefore, is made on this subject."

At the present time a large majority of charitable hospitals except teaching hospitals and some in the larger cities classify as private or semi-private patients those now protected by insurance.

The Medical Advisory Board in a report published in the *Boston Medical and Surgical Journal*, June 2, 1921, stated with reference to Hospital Fees—

"There has been much feeling against the ruling that establishes a fixed weekly fee for hospitals that is sometimes below actual cost. The occasional hardship of this is conceded.

Unfortunately some uniformity in rulings is necessary.

Moreover, it is a fact that all public hospitals, and this includes most of our hospitals and those most often heard, are community hospitals of a more or less public type, and if chartered as charitable corporations, free from taxes and certain legal disabilities in view of their supposed public services. This is true even if they are supported more by private than by public funds.

Therefore it is felt that the hardship of calling for treatment of the insured employee at the same rate as that charged his neighbor citizen involves less injustice than would result under other plans proposed."

and with reference to Fees to Hospital Physicians—

"There has been bitter feeling, often expressed, because of the ruling that, in effect, often forces staff hospital physicians to treat insured cases for nothing. This ruling, carefully considered, often discussed, before and since, is not the result of any bias against hospital physicians or in favor of insurance companies.

Here, too, the fact that public hospitals are exempted from various liabilities in view of public service rendered and that the doctor is in some measure compensated for his work by the experience and reputation gained is not without some pertinence.

It seems unwise to treat Mr. 'X,' injured in his own yard, and Mr. 'V,' coming under compensation,—both lying in a given hospital ward,—on other than an equal basis. Mr. 'X' pays his own bills. Mr. 'V's' are paid by someone else—in this case the insurer—but the service of a community hospital to two citizens of like standing is the same."

The opinion of the American Hospital Association is expressed in their Transactions Vol. 28, P. 417, as follows:

"Resolved, that under present conditions the burden of proper treatment of compensation cases is oppressive, unjust and contrary to all economic principles and that therefore this association make every endeavor to require that hospitals and physicians shall receive recompense in every Workmen's Compensation Case sufficient to pay the cost thereof and that our trustees be requested to take such action as they may deem expedient in the effort to terminate the present intolerable conditions as quickly as possible in order that hospitals may be better enabled to properly carry on their work for the economic and social benefit of the communities which they serve."

The law as amended reads thus (General Laws Chapter 152, Section 30).

"During the first two weeks after the injury, *and if the employee is not immediately incapacitated thereby from earning full wages, then, from the time of such incapacity, and in unusual cases, or cases requiring specialized or surgical treatment, in the discretion of the department, for a longer period,* the insurer shall furnish adequate and reasonable medical and hospital services, and medicines if needed *together with the expenses necessarily incidental to such services. The employee may select a physician other than the one provided by the insurer,* and in case he shall be treated by a physician of his own selection, or where, in case of emergency, or for other justifiable cause, a physician other than the one provided by the insurer is called in to treat the injured employee, the reasonable cost of his services shall be paid by the insurer, subject to the approval of the department. Such approval shall be granted only if the department finds that the employee was so treated by such physician or that there was such emergency or justifiable cause, and in all cases that the services were adequate and reasonable and the charges reasonable. *In any case where the department is of opinion that the fitting of the employee with an artificial eye or limb, or other mechanical appliance will promote his restoration to industry, it may order that he be provided with such an artificial eye, limb or appliance, at the expense of the insurer.*"

(The portions in italics are amendments.)

The interpretation of the Law is the work of the Industrial Accident Board and on appeal of the Courts. Of course primarily the law is intended for the benefit of the injured workman.

The general policy of the Board in reference to the payment of Hospitals is indicated by the following finding quoted in their report for 1917-18, Page 54:

"The question raised in the present case and the issues presented thereby have been passed upon on several occasions by this Board. The general finding which has been made by this Board in cases involving the proper and reasonable fee for insurers to pay for hospital treatment of injured employees who are under the act has been that the insurer should pay the general ward rate charged to general patients treated in the hospital who are able to and do pay hospital charges. The Board is not prepared to dispute the proposition advanced by the witness for the hospital in the present case, that the actual cost of taking care of a patient may be greater than this charge, and this statement has been made in other cases, but the Board has felt and still feels that the injured employee who goes to the hospital goes there as a member of the public, and that the bill which should be paid for his treatment is and should be the bill which would be charged him as a member of the public.

The present hospital, as in other cases where this ruling has been made, is a public charitable institu-

tion maintained in part by contributions of a public character, and is not expected to be and is not entirely self-supporting. We feel that no discrimination should be made either for or against the insurer, who may also be considered a member of the public in the matter of the charge made. In the last analysis it is fair to assume that if a larger amount were to be charged to the insurers this would be speedily reflected in the premium charged, and the expense would again come back to where it now rests, to wit, upon the public. It has seemed, therefore, right and proper to this Board to cleave to the rule laid down of no discrimination."

As regards the payment of physicians for professional services rendered as a member of the Staff to patients in a hospital the following recent unanimous decision of the Board is important and is printed in full.

James Allan, Employee.
Arthur C. Harvey Co., Employer.
Travelers Ins. Co., Insurer.
Martin H. Spellman, M.D., Physician.

DECISION OF THE BOARD

This case, as noted in the record, comes before the Board at the request of a physician under the provisions of Section 13 for the purpose of having determined what amount if any should be paid to the doctor under the provisions of section 30 of the Act. Section 30 of the Act reads in part as follows:—"During the first two weeks after the injury is received, the insurer shall furnish adequate and reasonable medical and hospital services." Further on in this same section, a provision is made whereby the employee may choose his own physician.—

An examination of this record discloses that in this instance the employee did not choose a physician and the Board so finds. The facts upon which this finding is made are clear upon the record. The employee did go to a Dr. Larabee who bandaged his hand and advised him that his was a hospital case. He then went to the St. Elizabeth's Hospital in accordance with this advice. That he made a choice of a hospital seems quite apparent, but he knew no doctor in the hospital and he so stated to the nurse when asked if he had a doctor. She then suggested the name of Dr. Spellman and he said that Dr. Spellman would be all right. Whether there was any other doctor in the hospital at the time does not appear. Such a procedure does not, in the opinion of the Board, constitute the choosing of one's own physician contemplated by the statute and hence the finding made above on this point.

Dr. Spellman, who was called, was at the time chief of the accident service at the hospital and had been such for about seven months. As such he was a member of the hospital staff and he testified that as staff doctor "he gives his time gratis to the poor. He receives no salary from St. Elizabeth's Hospital." He rendered a bill in this case for $45. While the bill was made out in the name of the employee, the bill apparently was sent to the insurer and the present proceeding is brought by the doctor to collect from the insurer. At this point it may be proper to state that the Board finds that so far as the professional services of the petitioner are concerned they were adequate and that if no other factor entered into the case except the value of those services, as such, the charge made by him is reasonable.

The real question raised upon this record and the question which the parties themselves desire to have passed upon by this Board is whether or not the insurance companies should be charged with the payment for services rendered by staff doctors in hospital cases coming in to the hospital in the ordinary course. It is not intended in considering this case to pass upon another class of cases where an injured employee comes to a hospital as the private patient of a doctor sent there and treated there by the doctor because of the facilities and opportunities for proper treatment which the hospital presents.

The question raised in this case first came before the Industrial Accident Board some years ago. But before that and when other questions than the present were being met with, the Industrial Accident Board had asked the assistance of the medical profession through accredited representatives of various medical societies to appoint a committee to confer with and advise the Industrial Accident Board as to what in the opinion of that profession expressed by these representatives would be a proper position for the Industrial Accident Board to take upon certain questions which had already and thereafter might arise. When the question now presented before us in this record first presented itself, the Industrial Accident Board called into consultation this Medical Advisory Committee so-called. Our Board recognized at that time, and still recognizes, that it was not for it to delegate any authority which they had or any duty which was placed upon it to such a committee. However in the words of the statute, the insurer is to be charged with the furnishing of adequate and reasonable medical and hospital services with limitations set forth in the statute and upon this side of the case the guidance and statements of this Medical Advisory Committee seem to the Board to be pertinent and entitled to weight in reaching a conclusion as to what constitutes a fair charge to be made against the insurer for reasonable hospital services. The advice of that Committee to the Industrial Accident Board was that the insurer should not be charged with the payment for medical services rendered by a member of a hospital staff on duty as such. The Board con-

sidered this advice and they proceeded to adopt it in all cases coming before them in which the issue presented itself in the way stated and many cases have been decided by this Board in accordance therewith. In reaching this conclusion the Board took into consideration the nature and character of hospitals. They are public institutions. They are, or at least those to which we have intended to apply the rule stated, organized under Chapter 180 of the General Laws and as such enjoy privileges in the Community, including exemption from taxation, freedom from suit, etc., which no private concern has. So far as this Board knows none of the hospitals so organized and so conducted are self-supporting. They depend to a very considerable extent upon contributions from the public and in many instances from the local government in the locality where they exist. It is perfectly well known that doctors as a class seek positions upon the staff of their local hospital. These positions they seek with the expectation and understanding that they are to receive no direct monetary return for their services. Their return for their voluntary services is figured not in terms of dollars and cents but in experience gained, prestige perhaps obtained, and last and by no means least the satisfying sense of having done something for the Community in which they live. In some hospitals at least staff men enjoy a privilege denied to other physicians in the Community in that they are permitted to take into the hospital private patients for treatment, whereas any other doctor in the Community, not upon the staff, who desires hospital treatment for a patient, is obliged to relinquish his care of the patient, send the patient to the hospital, there to come under the care and treatment of a staff man of the hospital. In some instances only members of the staff can have private patients in the hospital.

The Board sees in sanctioning the charging of patients in the hospital by staff physicians the seed of much discontent and possibly trouble throughout the Commonwealth in hospital administration and results. We have on the one hand a hospital staff, in many instances of a self-perpetuating character, but in any event looking to the trustees or members of the existing staff for appointment. At the same time we find the trustees seeking the aid of the public at large, for a hospital, which so far as the appeal to the public is concerned is to take care of patients coming into the hospital in the way and manner in which the injured workman in this case came to St. Elizabeth's Hospital. Nor is the Board unmindful of the fact that the make-up of hospital staffs is not always satisfactory to all the members of the medical profession in a given locality. If they are to be permitted to charge ward patients for their services this feeling of dissatisfaction will certainly not be lessened, and so public feeling points to the course we are following.

The staff men who ask to be permitted to charge the insurance companies for their services make the assumption that they are furnishing something to the insurance company and that the insurance company is profiting thereby. In the last analysis this statement is a fallacy because the insurance company, if the policy is adopted of permitting charges, will charge the policy holders, and the public will once more find itself in the position of the ultimate consumer and the bearer of the financial cost.

It should not be lost sight of that the insurer has paid the hospital bill of $63 in this case. Ordinarily if this employee had gone to a hospital as a result of the same condition due to an injury received outside of his employment, he would not be asked to pay for the services he received from the surgeon or physician who attended him as a member of the staff.

The Board, in addition to all other reasons stated above, is further influenced by the belief that in charging the insurance companies for services in a case of this sort, as in other cases, they should be actuated and guided in part at least by a consideration of what the injured man might naturally expect to have for medical services as a private individual based upon his own resources and station in life. Hospitals in the first instance are maintained and supported by the public for the care and treatment of the members of the public needing hospital care and they are ordinarily constructed with the ward patient in mind as the first consideration. Certainly the care which a patient receives in the general ward of the hospital must be reasonable and adequate treatment in the average case. Were the members of any hospital staff to hold to the contrary it would amount to an indictment of themselves and their hospital, which it is inconceivable that they would subscribe to. Certainly, the Industrial Accident Board finds no reason for bringing such an indictment against our Massachusetts hospitals.

Many of the hospital doctors have a very unfortunate way of terming those patients who are treated in the general ward as "charity patients". Such designation is uncalled for and unwarranted. These very doctors themselves have obtained their education in most instances at institutions of learning where they have paid for tuition a sum entirely incommensurate with the actual expense which has been involved in giving them their education. Figures published in the press within a few days have shown that at one New England College the receipts from tuition fees represent but thirty per cent. of the cost of the administration of the college. Needless to say, the doctors who went to that college and paid the tuition charged do not feel that they were "charity students." And, if not, is there any reason for designating the patient who goes to a hospital and pays the established hospital charge for ward treatment a charity patient simply because the cost of administering

the hospital in all its ramifications may be more than the amount received from patients therein? One might go further even in the analogy and point out that it is a more or less general belief that those who furnish instruction in our schools of higher education do not receive salaries commensurate with the value of their actual contributions to the cause.

And so the Board, affirming the position which it has heretofore taken in cases of this character and reiterating it in the present case, finds and rules that the insurer having paid the ordinary hospital rate has fulfilled the obligation placed upon it by the statute to furnish adequate and reasonable hospital services to the employee and that the claim of the physician that he be paid by the insurer for his services should be and is denied.

FRANK H. DONAHUE.
CHAS. M. STILLER.
DAVID T. DICKINSON.
WM. W. KENNARD.
JOSEPH A. PARKS.
CHESTER E. GLEASON.
EMMA S. TOUSANT.

It is understood that an appeal is to be made to the Courts in this case.

The attempt has been made to outline the situation as it exists today. A Committee representing certain districts of the State is at work gathering facts regarding the compensation of physicians for their work for hospital patients who are insured. In this statement the JOURNAL has tried to avoid comment or criticism. Doubtless comment will be made by others and by the JOURNAL in later issues.

The Massachusetts Medical Society

SECTION OF OBSTETRICS AND GYNECOLOGY

Foster S. Kellogg, M.D., *Chairman* — Frederick L. Good, M.D., *Secretary*

Frederick J. Lynch, M.D., *Clerk*

What is the accepted modern treatment of hyperemesis gravidarum?

There is a large psychic element as a cause for vomiting in the majority of these cases. Treatment which produces a profound mental impression on the patient will be most efficacious. The routine described below is designed to produce that mental impression in addition to providing treatment for the acidosis and dehydration which are almost invariably present. This routine may seem harsh but any attempt to soften it will render it less effective or cause it to fail altogether.

Send the patient to a hospital. Strict adherence to this routine is almost impossible in the home and modifications of it, adapted for care in the home, or partial adherence to the routine must be avoided.

Place the patient in strict isolation in a single room. Exclude all visitors until the patient is taking food and fluids well and has been free from vomiting for at least 48 hours.

Warn nurses and attendants against any expressions of sympathy or conversing any more than is absolutely necessary with the patient.

Forbid the patient to have an emesis basin in the room. The presence of such a utensil reminds the patient that she is expected to vomit and invites her to continue. If she does vomit let her vomit on the floor. This is repugnant to her and the knowledge that she must vomit on the floor or not vomit at all has a strong inhibitory effect on her.

Administer 8 ounces of fluid by rectal taps every 4 hours, alternating normal saline and 5% glucose. Add 30 grains of sodium chloride to each 8 ounces of 5% glucose. The reason for using normal saline instead of tap water and for adding salt to the glucose solution is that, due to the constant removal of hydrochloric acid from the stomach by repeated vomiting, the blood chlorides are always lower than normal. Restoration of the blood chlorides to normal, with consequent improvement of hydrochloric acid secretion in the stomach, tends to reduce the nausea and vomiting.

Starting at 7 A. M. and continuing until 9 P. M. have the patient drink 8 ounces of fluid every hour. At 7 A. M., give 8 ounces of milk, at 8 A. M., 8 ounces of malted milk, at 9 A. M., 8 ounces of water, at 10 A. M., 8 ounces of milk again and so on in rotation in this order until 9 P. M., and then give nothing by mouth until 7 A. M. when the same routine is repeated. The nurse should hand the glass of liquid to the patient and insist that she drink it at once. Do not leave it with the patient to drink or not as she chooses. Many patients will say that they can't drink milk, that it always nauseates them and will suggest ginger ale, bouillon, tea, coffee or some other liquid as a substitute. The answer to that should be, "This is a treatment which never fails. You must follow it absolutely. You may vomit the milk as soon as you have swallowed it but you must drink it now." If she does vomit don't be discouraged. Repeat the same procedure every hour and the patient will rarely vomit more than two or three times.

After the patient has taken the hourly glass of fluid without vomiting for 24 hours she will usually ask for solid food. Don't grant that request immediately. Make her continue the milk, malted milk and water routine for another 24 hours and assure her that if she has no vomiting during that time she may have food. Don't let her stop the routine until she is thoroughly tired of it.

Bromides should be given in 30 grain doses

by rectum every 8 hours preferably being given with the rectal tap of 8 ounces of normal saline.

If, after the preceding routine has been established, the patient does not promptly stop vomiting she should have a stomach lavage done once or twice. This procedure has no value aside from its psychic effect but it is an uncomfortable experience which the patient dreads to have repeated and the psychic effect is considerable.

If the patient is at all dehydrated give 1000 cc of normal saline by hypodermoclysis. On all except the early and mild cases it is best to give one such treatment as soon as the patient is admitted to the hospital and it may be repeated every eight hours until the patient is obviously no longer suffering from lack of fluid. If the patient retains her rectal taps the glucose in them will usually suffice to control acidosis but if much acetone and diacetic acid are present in the urine 500 to 700 cc of 5% glucose may be given intravenously. If intravenous glucose is given the solution should be made from the highest purity glucose and sterilized in the autoclave. Ampules of a 50% glucose solution are now obtainable and this solution diluted with nine volumes of sterile water or normal saline offers probably the simplest and safest method of prefering a 5% glucose solution.

If after a fair trial, the patient fails to improve, or if, under treatment, she shows a steadily rising pulse, then the pregnancy should be terminated while the patient is still in condition to withstand the shock of operation. The necessity for this seldom arises if treatment is begun before severe acidosis and dehydration have developed. The preceding routine if carried out with rigid attention to detail will almost always control the vomiting.

By its use patients have been restored to normal who obviously were so sick when admitted to the hospital that any attempt to terminate the pregnancy would probably have proved fatal. In that type of case the first care should be the correction of acidosis and dehydration by intravenous glucose and large amounts of saline by hypodermoclysis and by rectum. The earlier the treatment is begun the better are the chances of success.

Questions of a similar nature to the above will be discussed in the JOURNAL each week. They may be addressed to the Clerk of the Committee, in care of the JOURNAL and will be answered by members of the Committee of the Section of Obstetrics and Gynecology.

BOSTON MEDICAL LIBRARY

THROMBOANGIITIS OBLITERANS

(Buerger's Disease) (Yiddische Krankheit)

Brief abstracts of the Chief articles that have appeared on this subject in the past twenty years accompany the text and will be on exhibition in Holmes Hall for the week of March 19th.

Charcot and Savory contend for priority of description, both in 1856. In 1869 Billroth recorded the first amputation and gave the specimen to Winniwarter who described the lesions under the name of endarteritis obliterans but not until 1879. Jasche in 1865, Burrow in 1867, and Friedlander in 1876 reported clinical cases, the latter especially describing the pathology. In fact it was called Friedlander's disease by Osler. Weiner and Sachs, 1889, had opportunity to study a case and investigate its pathology after amputation but classed it as Erythomelalgia, described not long before by Wier Mitchell (1872). In 1904 comes Erb's thorough study of the disease with emphasis laid upon the racial distribution and the probable rôle of nicotine in its causation. In 1908 Buerger reported pathological and clinical studies on 11 cases and coined the name now most commonly used. Since that date the literature has been getting well stacked with references, mostly clinical reports.

The importance of the matter is that the patient's distress (physical and economic) and the surgeon's discouragement over the management of cases so often lead to the adoption of methods unnecessarily radical and mutilating.

The causative factors seem to be a highly sensitized nervous system in the male, and the early, prolonged, and perhaps excessive use of cigarettes. That is not a racial disease exclusively, is becoming quite evident as nationals of all countries seem to have it, though the male Jew suffers most conspicuously. The most striking thing about the clinical course of the lesion is that two methods of control of the progress are adopted by Nature: Viz: canalization of the clot in the obstructed vessels and extensive proliferation of vessels, or dilatation of such collaterals as already exist, both of which processes tend to care for the nutrition and overcome the tendencies toward gangrene. Treatment, in recognition of these two tendencies, should be directed to forcing the increase of collateral circulation and supporting the patient's morale by helping him to bear his pain.

Recent experiments with foreign protein (typhoid vaccine) seem to provide relief from pain for intervals of several days and no harm appears to come from repeated intravenous medication with it. It is to be hoped that in this is to be found a means of holding these sufferers while the reparative processes above described are being carried out. This is what

has been sought by the Larische and Royal Sympathectomies, the use of citrate solution intravenously and through the duodenal tube and alcohol injections into arterial sheaths, etc. A fairly complete Bibliography of this disease with abstracts of articles will be on exhibition in Holmes Hall the week of March 19th.

JAMES THACHER, M.D.

1754—1844

The Library has recently been given two books that are of more than ordinary interest. Dr. James Thacher, a physician practicing for more than sixty years in Plymouth, Mass., was the author of them. They have been for many years in possession of different individuals but finally have been deposited here by one of Dr. Thacher's descendants, Dr. James W. Sever, who realized their value as historic evidence of the state of Medical Science in this locality during that period. One of them is a compilation of "American Modern Practice" and the other is entitled "American Medical Biography".

In 1891 the annual discourse before the Massachusetts Medical Society delivered by Dr. J. B. Brewster, had for its subject the life of Dr. James Thacher. He was born in Barnstable on Cape Cod and when he came to study medicine at sixteen he was apprenticed for five years to Dr. Abner Hersey of his native town. When he had completed this apprenticeship he was twenty-one and the country was just entering upon the Revolutionary War, the Battle of Bunker Hill having but recently been fought. He joined a regiment and remained in the service until 1783. The same year he started practice in Plymouth and from the very start he taught medicine, having six and eight students apprenticed to him. He came under suspicion for a "Resurrectionist" for a time but his practice became very large and he held the respect of people far and wide, finding time, however, to write a great deal, his last work appearing when he was eighty-one. He died at ninety. A full account of his life may be found in the Proceedings of the Massachusetts Medical Society for 1891. In the volume on Medical Biography there is much interesting material regarding the state of Medical Education in America—a brief account of all the existing Medical Schools, the personnel of their faculties and the number of their students. The fly leaf contains an interesting copyright notice, defining the purposes of the copyright act, and the opposite page contains a dedicatory note to Dr. Holyoke, the first president of the Massachusetts Medical Society, a man then (1828) in advanced years.

That one should have been able to carry on a large practice and find time to contribute so much by his pen, and this at a time when books were scarce and not collected to any great extent in libraries, is all the more remarkable.

MISCELLANY

THE COMMONWEALTH FUND

ITS ACTIVITIES

The Board of Directors of the Commonwealth Fund at their February meeting appropriated $358,438 for the Fund's rural hospital program. During the last two years five awards have been made under this program for hospitals in Farmville, Va.; Glasgow, Ky.; Farmington, Me.; Beloit, Kans.; and Wauseon, Ohio. In each case the Commonwealth Fund provides two-thirds of the cost of construction and equipment while the community pays the remainder of the cost and assumes the expense of operation.

At the same meeting $27,000 was appropriated for fellowships in psychiatry at the University of Colorado Medical School. Six such fellowships, each with a stipend of $4,500 for two years' study, will be offered to graduates of class A medical schools who intend to specialize in psychiatry. The University of Colorado, in affiliation with the Colorado Psychopathic Hospital, which was opened three years ago under the direction of Dr. Franklin Ebaugh, is regarded as offering unique opportunities for the training of psychiatrists in that part of the country.

Five three-year fellowships for psychiatrists at the Henry Phipps Psychiatric Clinic under the direction of Dr. Adolph Meyer, Johns-Hopkins University, Baltimore, were also provided for with a grant of $45,000.

A grant of $4,750 for operating expenses was made to the New York City Committee on Mental Hygiene with a possibility of renewal for two subsequent years. This Committee was organized in May, 1927, as one of the local branches of the New York State Committee on Mental Hygiene affiliated with the State Charities Aid Association. Dr. C. Floyd Haviland, Superintendent of the Manhattan State Hospital, is chairman of the Committee and Mrs. Sydney C. Borg of the Jewish Board of Guardians is vice-chairman. The Committee will function as the mental hygiene section in the health division of the Welfare Council of New York City and it expects to develop a unified mental hygiene program for New York City.

Other appropriations made at the February meeting included $10,000 to the National Probation Association for the further development of its field service department; $15,000 to the Foreign Language Information Service; $3,800 for the cardiac clinic of the Johns-Hopkins University Hospital; and $2,000 for scholarships at the Southern Pediatric Seminar. The latter grant renews one of the same amount made for the summer of 1927 under which 35 scholarships were awarded to physicians from six southern States to attend this Seminar, which is held for two weeks each summer in Saluda, N. C., in order to enable general practitioners to gain further clinical information concerning methods of diagnosis, treatment, and prevention of children's diseases.

At the preceding meeting of the Board of Directors of the Commonwealth Fund, held in December, the following appropriations were made: for the child health program of the Commonwealth Fund, $230,000; for projects in legal research to be conducted by the law schools of Chicago, Yale, and Har-

vard Universities, $25,000; for surveys of rural health work under the direction of the Committee on Administrative Practice of the American Public Health Association, $22,500; to the National Conference of Catholic Charities for a study of child caring homes, $16,500; for a two-year study of encephalitis cases at the Pennsylvania Hospital, $10,000; for the general budget and the department of institutional care of the Child Welfare League of America, $10,000; for the cardiac work of the New York Tuberculosis and Health Association, $7,500.

A Report of the Work and Appropriations

The expenditure of $1,100,000 last year by the Commonwealth Fund in efforts to improve the physical and mental health of American children is described in the ninth annual report of the General Director, Barry C. Smith, published February 6, 1928. Other gifts for hospitals, educational and welfare work brought the total appropriations for the fiscal year ending September 30, 1927 to $1,953,557.

The capital endowment of the Commonwealth Fund, which was established in 1918 as a general philanthropic foundation with an initial gift of $10,000,000 from the late Mrs. Stephen V. Harkness, was increased by additional donations during her lifetime and now amounts to over $38,000,000. The income last year was $2,129,748.

Approximately $417,000 was expended to carry on the Fund's program for the promotion of child health. A five-year demonstration of health work in Fargo, N. D., was completed and the city has made provision for the continuance of every essential activity at its own expense. Fargo's health budget for 1928 calls for an expenditure of $1.13 per capita for health purposes as compared with $.28 in the year prior to the opening of the demonstration. The health work of the city is rated by the American Public Health Association at 814 points out of a possible 1,000 as compared with 320 the year before the demonstration. Similar demonstrations are being continued in Rutherford County, Tenn.; Athens, (Clarke County) Ga.; Marion County, Ore.; and the official scoring of public health activities in these communities already shows gains comparable to that in Fargo.

In Austria where the Fund has aided in the support of various forms of child welfare and health work throughout the post-war period, no attempt has been made to import American public health methods, but standards of existing Austrian child health service have been raised and various extensions of the public health program have been made in accordance with the demands and understanding of each community. In the belief that the best way to improve standards is through the training of workers in strategic points throughout the country, scholarships totaling $39,000 have been given to physicians, midwives, and welfare workers. During the past summer Dr. Thomas Scherrer, Chief of the Austrian Department of Public Health, visited the United States under the auspices of the Fund, traveling as far as the Pacific coast in a two-months' study of American public health work.

The Fund's program for the development of child guidance clinics, visiting teacher work in the public schools, and allied projects in the field of mental hygiene required last year appropriations totaling $697,000. A five-year period of demonstrations and consultant service under this program, ending in June 1927, has resulted in the establishment of community clinics for the study and treatment of children's behavior problems in Cleveland, Philadelphia, St. Louis, St. Paul, Minneapolis, Dallas, Baltimore, Richmond, Milwaukee, Los Angeles, and Pasadena, California. Following a series of three-year demonstrations together with advisory and consultant service, visiting teacher work has been organized in the public school systems of fifty-eight communities located in thirty-two different States. School children to the number of 15,439 have been aided by visiting teachers in the solution of their difficulties in these demonstration centers and in New York City.

An outstanding feature of the Fund's mental hygiene program was the establishment this year of an Institute for Child Guidance in New York City under the direction of Dr. Lawson G. Lowrey. This Institute is fully equipped both for research and for practical work with children who exhibit conduct disorders and personality difficulties. It also provides a center for the special training of psychiatrists, psychologists, and psychiatric social workers. Fellowships established by the Commonwealth Fund for students at the Institute are administered by the National Committee for Mental Hygiene, the New York School of Social Work, and the Smith College School for Social Work.

Through its Division of Education the Fund expended $50,000 for educational research. In June, Max Farrand, who had been director of the division for several years, resigned to accept the position of director of research of the Henry E. Huntington Library and Art Gallery. Under his successor, Edward Bliss Reed, formerly associate professor of English at Yale, the Division is devoting its major attention to administering the fellowships for British graduate students in American universities which the Commonwealth Fund established in 1925. A total of $175,000 was appropriated last year for the maintenance of these fellowships, which permit of two years study and travel in the United States. The first group of Fellows, appointed in 1925, have completed their studies and returned to positions in Great Britain or the Dominions. To the original twenty fellowships the Fund added last year three fellowships for graduate students from the Dominions studying at British universities, and more recently two fellowships for university graduates attached to the British Colonial Service.

For the development of rural hospitals the Commonwealth Fund appropriated $414,000 during the year under review, making awards to Farmington, Maine; Beloit, Kansas; and Wauseon, Ohio, Farmville, Virginia, and Glasgow, Kentucky, had received awards the previous year under this program, the objects of which are to provide modern hospital facilities in rural areas where they are needed, to assist in improving standards of local medical practice, and to provide an incentive for good physicians to remain in the country and for young physicians to come there. In accordance with a policy of coöperation which is applied so far as possible in all the Fund's local work it is stipulated that the community shall pay a third of the cost of building and equipping the hospital and undertake its maintenance. The general plan includes the construction of fifty-bed general hospitals in the selected areas, the development where advisable, of facilities for the training of nurses; provision for preventive and educational clinics as a part of out-patient service; fellowships to local physicians for post-graduate study; educational institutes and clinics for physicians; and the development of community public health activities in coöperation with the hospital.

Miscellaneous grants totaling $182,000 made by the Fund last year included appropriations to the American Conference on Hospital Service, the American Society for the Control of Cancer, the Foreign Language Information Service, the League of Red Cross Societies for the forthcoming international conference of social work, the Welfare Council of New York City for its research program, the New York Tuberculosis Association, and other health and welfare agencies.

COMPARISON OF DISEASE INCIDENCE IN CONNECTICUT WITH 1927 AND SEVEN YEAR AVERAGE MONTH ENDING MARCH 3

	1928					1927			
	Wk. ending Feb. 11	Wk. ending Feb. 18	Wk. ending Feb. 25	Wk. ending Mar. 3	Average cases reported for week corresponding to Mar. 3 for past seven years..	Wk. ending Feb. 12	Wk. ending Feb. 19	Wk. ending Feb. 26	Wk. ending Mar. 5
Actinomycosis	-	-	-	-	-	-	-	-	-
Anthrax	-	-	-	-	-	-	-	-	-
Botulism	-	-	-	-	-	-	-	-	-
Cerebrospinal Men.	1	-	2	1	1	2	2	-	1
Chickenpox	123	75	72	97	72	103	88	107	107
Conjunctivitis Inf.	-	-	-	-	-	1	-	-	-
Diphtheria	43	29	26	20	56	31	41	27	29
Dysentery, Amoebic	-	-	-	-	-	-	-	-	-
Dysentery, Bacillary	-	-	-	-	-	-	-	-	-
Encephalitis, Epid.	-	2	1	1	3	4	-	-	-
Favus	2	-	-	-	-	-	-	-	-
German Measles	4	1	-	1	16	5	58	3	7
Hookworm Infection	-	-	-	-	-	-	-	-	-
Influenza	3	10	3	3	156	5	14	18	7
Leprosy	-	-	-	-	-	-	-	-	-
Malaria	-	-	-	-	-	-	1	-	1
Measles	280	318	358	358	324	121	89	138	146
Mumps	114	102	172	209	68	30	31	36	55
Paratyphoid Fever	-	2	1	-	-	-	-	-	-
Pneumonia (Broncho)	29	30	35	50	40*	39	41	33	34
Pneumonia (Lobar)	50	74	60	60	62	34	41	41	53
Poliomyelitis	-	-	-	1	-	-	-	-	-
Scarlet Fever	114	86	89	74	122	101	118	107	96
Septic Sore Throat	1	2	2	-	1	3	6	1	2
Smallpox	6	1	2	3	6	-	-	-	-
Tetanus	-	-	-	-	-	-	-	-	-
Trachoma	-	-	-	-	-	-	-	1	-
Trichinosis	-	-	-	-	-	-	-	-	-
Tuberculosis (Pul.)	47	26	45	33	31	22	44	24	29
Tuberculosis (o.f.)	1	2	15	4	3	9	5	6	3
Typhoid Fever	2	1	4	-	2	-	3	-	1
Typhus Fever	-	-	-	-	-	-	-	-	-
Whooping Cough	190	96	175	133	59	54	49	36	52
Gonorrhoea	25	28	32	28	30	45	17	14	21
Syphilis	33	29	51	50	47	32	15	25	27

*Average for three years. Made reportable January 1, 1925. Remarks: No cases of cholera, Asiatic, glanders, plague, rabies in humans and yellow fever during the past seven years.

UNITED STATES VETERANS' HOSPITAL

NEW YORK, (BRONX), N. Y.

Department of Medical Psychology
Laboratory
G. V. N. Dearborn, M.D., Ph.D., Director

In writing *histories*, physicians, etc., will please always record the mental age; I. Q.; the base-year, if any and, invariably, the psychological finding as to regression—as required by regulations.

The Psychological Department is prepared to function in at least the seven following ways, and has for the purpose a very complete outfit of scales and apparatus.

1. *Psychometry of all classes of people:* The measurement of the native intelligence as nearly as it can be done, at present, at adult age. Each patient at each admission is supposed to report to the Laboratory for this purpose.
2. *The determination of regression or of progression.* This helps in diagnosis, paroling, discharging, etc., and is a very important part of every psychometric report. The method employed has been developed by research in this Laboratory. (See the *American Journal of Psychiatry*, April, 1927, and the *British Journal of Medical Psychology*, October, 1927.)
3. *The estimation of personalities*, for the purpose of selecting the constitutional psychopaths, etc. The feelings and the will can be roughly estimated in comparison with the average. The Laboratory has elaborate apparatus for this purpose.
4. *Psychotherapeutics* and the instruction of selected patients in mental hygiene.
5. *Psychanalysis* whenever expedient.
6. *Vocational selection.* Various aptitudes can now be determined and superior intelligence more or less accurately measured, or at least indicated, even in the adult. Many special vocational tests are available.
7. *Qualitative determination of certain mental processes.* Conspicuous among these are the individual's vocabulary, basis of his ideas; his memory and power of recall; his imagination; his basal common sense (reasoning power); his caution and foresight; his kinesthesia; his persistence; his quickness of voluntary movement; sensory changes; his judgment; his habit of observation; his relative muscular vigor; whether he be color-blind; etc.

In use at present are the Stanford Revision of the Binet-Simon scale; the Pintner-Paterson performance scale; the Pressey emotion-scale; the Stenquist mechanical-assembling test; the Stenquist mechanical-aptitude tests; the Downey will-temperament scale; the Healy picture-completion tests numbers one and two; and others are available, as needed.

GEORGE F. BREWSTER,
Medical Officer in Charge.

AMERICAN COMMITTEE FOR ATTENDANCE AT THE FIRST INTERNATIONAL OTO-RHINO-LARYNGOLOGICAL CONGRESS

SAILING FROM NEW YORK, JULY 6TH, 1928

25 Broadway, New York

COMMITTEE

Dr. Thomas J. Harris, New York.
Dr. Robert L. Loughran, New York.
Dr. George M. Coates, Philadelphia.
Dr. Henry B. Orton, Newark, N. J.
Dr. W. P. Wherry, Omaha, Neb.
Major C. P. Mills, New York.
Mr. P. G. B. Morriss.

More than seventy-five eye, ear, nose and throat surgeons will represent the United States at this Congress, to be held in Copenhagen, Denmark, July 29 to August 1. Some time will also be spent in visiting other large centers of Europe.

AN EXPLANATION OF HOW NATURE CAUSES THE GALL BLADDER TO EMPTY

Members of the faculty of the medical school of Northwestern University claim to have learned the method by which the gall bladder discharges its contents. This function, it is claimed, is brought about by an internal secretion produced by the lining membrane of the intestines in response to the presence of the gastric juice in connection with the injection of fats and meat.

These observers expect to be able to administer this secretion by the intravenous route.

Dr. A. C. Ivy, Professor of Physiology of the Northwestern School, reported his findings to the Chicago Society of Internal Medicine.

His associates in this study are Dr. Grant Kloster, Eric Oldberg, Elizabeth J. Ward and Harold Lueth.

Certain abnormal conditions of the gall bladder may be relieved by this treatment without resorting to surgery it is predicted, although if gall stones have formed surgery will, of course, still have to be employed.

A STUDY OF SILICOSIS

Under the supervision and direction of Professor Drinker a model granite cutting shop has been installed in the basement of the School of Public Health building of the Harvard School of Public Health for the purpose of studying the problem incident to the inhalation of dust by workers in granite.

This work was inspired at a meeting of the National Research Council several months past when it was brought out that the conditions in the granite cutting industry needed attention.

The inhalation of dust brings about complications in the lungs which predispose to the development of tuberculosis. It has been suggested that adequate ventilation may be effective in reducing or preventing silicosis but the whole subject will be considered by Professor Drinker.

THE HEALTH OF WOMEN AND OF MEN

Dr. Rosalie S. Morton, chairman of the Public Health Committee of the Medical Society of New York City, has made a study of the health of men and women who are working in several department stores. She finds that where there is any appreciable difference in the well-being of these workers it is due to economic conditions. The girls who receive small salaries and therefore have to live in less well-arranged apartments and have to economize on food do not compare well with the men because the men are on the average better paid. She found, however, that in those classes of women who earn the same wages as men there is no appreciable difference in the two sexes.

Men are more subject to headaches and indigestion than women among the groups studied. The factors influencing health in these stores seem to be ventilation, overtaxing of strength due to rush of purchasers, noise and width of the aisles.

CONNECTICUT NEWS

MEETING OF NEW HAVEN COUNTY PUBLIC HEALTH ASSOCIATION

The regular meeting of the New Haven Public Health Association was held at the Hotel Garde, New Haven, on Thursday, March 1, 1928, at eleven o'clock in the forenoon. The following papers were read:

"Smallpox: Differential Diagnosis and Other Items of Importance," Dr. Millard Knowlton, Director, Bureau of Preventable Diseases, State Department of Health.

"Some of the Important Findings in the Recent Health Survey in New Haven," Prof. C. E. A. Winslow, Yale University.

"Public Health Problems of Villages and Rural Districts," by Mr. Willis N. Butrick, Health Officer of Milford and Orange, together with Dr. C. N. Denison, Health Officer of Cheshire; Dr. A. S. McQueen, Health Officer of Branford; Dr. S. P. Taylor, Health Officer of North Haven.

SMALLPOX AFTER REFUSAL OF VACCINATION

Two cases of smallpox reported this week were members of families where cases existed early in January. Vaccination was urged then as a means of preventing smallpox but both patients refused on the ground that they did not believe in vaccination.

CHILD HEALTH WORK STILL NEEDED

Recently physical examinations were made of the children in one of the rural schools in the northwest part of the State. Of the 18 examined, 15 children were found to have 39 defects of which 11 were referred to their family physicians.

REMOVAL

Dr. Abraham Rudy has removed his office from New York City to 481 Beacon Street, Boston.

WILL A MEAT DIET CURE OR PREVENT SCURVY?

Vilhjalmur Stefansson, the Arctic explorer, is subjecting himself to the study of members of the Bellevue Hospital Staff with the expectation on his part that it can be shown that a meat diet is sufficient to maintain health.

His belief in the benefit derived from a meat diet is founded on his experience with the Eskimos.

The explorer is under the observation of Dr. Clarence W. Lieb. The experiment is being sponsored by the Russell Sage Institute of Pathology.

Stefansson claims that if a meat diet is adhered to fresh vegetables are not necessary in preventing scurvy.

RHODE ISLAND MORTALITY STATISTICS: 1926

Washington, D. C., January 11, 1928.—The Department of Commerce announces that the 1926 death-rate for Rhode Island was 1,269 per 100,000 population as compared with 1,211 in 1925. This increase in 1926 is more than accounted for by increases in the death-rates from measles (from 5 to 20 per 100,000 population), influenza (from 19 to 34), cancer (from 114 to 128), diseases of the heart (from 212 to 226), and whooping cough (from 9 to 18).

Decreases in 1926 are shown in the death-rates from tuberculosis, all forms (from 83 in 1925 to 72 per 100,000 population), machinery accidents (from 9 to 1), and diarrhea and enteritis, under 2 years (from 19 to 15).

Cause of death	Deaths in Rhode Island			
	Number		Rate per 100,000 estimated population	
	1926	1925	1926	1925
All causes 1/	8,791	8,226	1,268.5	1,211.0
Typhoid and paratyphoid fever	11	20	1.6	2.9
Malaria	-	-	-	-
Smallpox	-	-	-	-
Measles	137	36	19.8	5.3
Scarlet fever	4	13	0.6	1.9
Whooping cough	125	60	18.0	8.8
Diphtheria	43	45	6.2	6.6
Influenza	234	131	33.8	19.3
Dysentery	13	4	1.9	0.6
Erysipelas	25	19	3.6	2.8
Lethargic encephalitis	10	7	1.4	1.0
Meningococcus meningitis	10	6	1.4	0.9
Tuberculosis (all forms)	499	563	72.0	82.9
Of the respiratory system	403	455	58.2	67.0
Of the meninges, central nervous system	37	43	5.3	6.3
Other forms	59	65	8.5	9.6
Syphilis 2/	76	94	11.0	13.8
Cancer and other malignant tumors	884	772	127.6	113.7
Rheumatism	38	22	5.5	3.2
Pellagra	1	6	0.1	0.9
Diabetes mellitus	160	150	23.1	22.1
Meningitis (nonepidemic)	30	28	4.3	4.1
Cerebral hemorrhage and softening	789	683	113.9	100.6
Paralysis without specified cause	18	23	2.6	3.4
Diseases of the heart	1,564	1,440	225.7	212.0
Diseases of the arteries, atheroma, aneurysm, etc.	182	177	26.3	26.1
Bronchitis	56	54	8.1	7.9
Pneumonia (all forms)	766	734	110.5	108.1

Cause of death	Deaths in Rhode Island			
	Number		Rate per 100,000 estimated population.	
	1926	1925	1926	1925
Respiratory diseases other than bronchitis and pneumonia (all forms)	55	51	7.9	7.5
Diarrhea and enteritis (total)	128	147	18.5	21.6
Diarrhea and enteritis (under 2 years)	107	131	15.4	19.3
Diarrhea and enteritis (2 years and over)	21	16	3.0	2.4
Appendicitis and typhlitis	99	85	14.3	12.5
Hernia, intestinal obstruction	68	62	9.8	9.1
Cirrhosis of the liver	47	36	6.8	5.2
Nephritis	818	802	118.0	118.1
Puerperal septicemia	24	22	3.5	3.2
Puerperal causes other than puerperal septicemia	57	53	8.2	7.8
Congenital malformations and diseases of early infancy	565	547	81.5	80.5
Suicide	75	57	10.8	8.4
Homicide	21	12	3.0	1.8
Accidental and unspecified external causes (total)	453	527	65.4	77.6
Burns (conflagration excepted)	45	48	6.5	7.1
Accidental drowning	52	53	7.5	7.8
Accidental shooting	2	8	0.3	1.2
Accidental falls	93	88	13.4	13.0
Mine accidents	-	-	-	-
Machinery accidents	8	60	1.2	8.8
Railroad accidents	14	25	2.0	3.7
Collision with automobile	1	5	0.1	0.7
Other railroad accidents	13	20	1.9	2.9
Street-car accidents	14	15	2.0	2.2
Collision with automobile	2	3	0.3	0.4
Other street-car accidents	12	12	1.7	1.8
Automobile accidents (excluding collision with railroad and street-cars)	127	133	18.3	19.6
Injuries by vehicles other than railroad cars, street-cars, and automobiles 3/	7	6	1.0	0.9
Excessive heat (burns excepted)	3	5	0.4	0.7
Other external causes	88	86	12.7	12.7
All other defined causes	668	699	96.4	102.9
Unknown or ill-defined causes	38	40	5.5	5.9

1/ Exclusive of stillbirths.
2/ Includes tabes dorsalis (locomotor ataxia) and general paralysis of the insane.
3/ Includes airplane, balloon, and motorcycle accidents.

LEGISLATIVE NOTE

The Joint Judiciary Committee has reported leave to withdraw on House 748. This bill proposed to modify the present period of two years within which malpractice suits can be brought against physicians, surgeons and dentists.

RECENT DEATHS

CHAMBERLAIN—The death has been announced of Dr. William Eugene Chamberlain, at his home in Rutland, March 11, 1928, at the age of 67. He was a graduate of the University of Vermont College of Medicine in 1883, practiced in Princeton for five years, moving to Rutland and joining the Massachusetts Medical Society in 1895. For 30 years he was medical examiner and was also physician to the Rutland Prison Camp.

BARRY—Dr. Thomas Matthew Barry, a graduate of Tufts College Medical School in 1915, died at his home in Lynn, March 11, 1928, aged 35. He was born September 23, 1892, in Lynn, was graduated from Lynn Classical high school and served one year as house physician at St. John's Hospital, Lowell, as well as acting as an interne at Providence City Hospital for one year, in 1918, he was chief executive surgeon at the Throat and Nose Hospital in New York.

He was a member of Phi Theta Chi fraternity since 1911, and a member of George Washington court of Foresters of Lynn. He was a registered pharmacist, and succeeded his brother, John D. Barry, who conducted a pharmacy in West Lynn until 1918.

JOURNEAY—Dr. Warren W. Journeay died suddenly in Boston on Monday, February 20, 1928.

He was a native of Weymouth, Nova Scotia, where he was born in 1866, the son of Robert W. and Emma Moore Journeay. He received his medical training at Tufts Medical School, where he was graduated in 1900. During the World War he was lieutenant in the Army, serving as examining officer at the Massachusetts Institute of Technology. He was a member of the William Tell Club of Spencer Bay, Maine.

He is survived by his widow, Lydia Parnell Journeay; a daughter, Roberta, and a sister and brother.

CORRESPONDENCE

COMPULSORY VACCINATION IN PRIVATE SCHOOLS

Mr. Editor:

Lest there should be any misapprehension about my present attitude on the subject of compulsory vaccination in the private schools of the State, and lest anyone should conclude that the weight of increasing years has dulled the enthusiasm which since 1916 has caused me annually to appear before the Legislative Committee on Public Health as an advocate of enforcing legislation, will you give me space to say that it was considered futile to waste time this year in argument before a hostile Committee, which would be undoubtedly supported, as it was last year, by an equally hostile Senate. As of course all your readers know, the personnel of the two Houses remains unchanged from that of last year, there having been no State Election in 1927.

Next year we shall see what we shall see and meanwhile our opponents may, oblivious of the fact that there is more smallpox in the United States than anywhere outside of Asia, continue to chant the following, cribbed from the daily press:

"Why do doctors raise a clatter?
Ills we know are ever present.
Morbid talk already ample
Only causes trepidation.
Let us then ignore the matter;
Let us chat of simple pleasures,—
Something cheerful, for example,
'Long live Anti-Vaccination'."

SAMUEL B. WOODWARD.

ON THE PRACTICE OF MEDICINE BY THE FIRE DEPARTMENT

March 9, 1928.

Editor of THE NEW ENGLAND JOURNAL OF MEDICINE:
Dear Sir:

As a direct sequel to Yandell Henderson's publication in the latest number of the *Journal of the American Medical Association* on the resuscitation of infants at birth by the use of carbon dioxide, and the advice by him to call in the Fire Department when that agent is not at hand either in the home or hospital comes the *Boston Post* this morning with a front page write-up featuring just such an event; but with the surprising sub-heading "Fire Department Called when Medical Science Fails"!

As a matter of fact the saving of this infant's life, according to press reports, was directly due to Medical Science, as has been propounded since 1924 by Professor Henderson himself; and the pity of it is that an agency outside the medical profession should have been called in to perform services which are distinctly within the realm of medicine. Henderson's latest article is a scathing denunciation of the medical profession for failure to make use of a proved agent for resuscitation, and he would probably say that the lay publicity given by this morning's *Post* was no more than deserved by the inaction of the profession at large.

However, in the defense of medicine in general, and to the credit of one despised specialty in particular, may I say that every professional anesthetist has at his immediate disposal and carries habitually in his automobile the necessary apparatus and a supply of oxygen and carbon dioxide for the purposes of resuscitation so that for this purpose there is no need to go outside the regular profession. On the necessity for Hospitals to equip themselves with proper supplies I make no comment; but the practice of medicine is for physicians and not the Fire Department.

Very truly yours,

RUSSELL F. SHELDON.

AID FOR THE MISSISSIPPI DOCTOR

THE AMERICAN RED CROSS

Boston Metropolitan Chapter

March 12, 1928.

NEW ENGLAND JOURNAL OF MEDICINE:
126 Massachusetts Avenue,
Boston, Mass.

Gentlemen:

Since I last wrote you on March 2nd, we have received from Dr. John W. Cummin, 9 Massachusetts Avenue, a box containing an assortment of instruments and the following books for the Mississippi doctor: "Atlas of Diseases of the Skin" (Mracek); "Manual of Therapeutics" (Parke, Davis & Company); "Heart Disease" (Broadbent); "A Compend of the Practice of Medicine" (Hughes); "Textbook of Human Anatomy" (Macallister); "Elements of Anatomy" (Quain); "Clinical Examination of the Urine" (Ogden).

This leaves the following things on the list yet to come: cystoscope; hemoglobinometer; general operating instruments; the following books: Physiology, Physiological Chemistry, Pathology, Surgery (Lewis), Pediatrics, Gynecology (Graves), Intravenous Therapy (Dutton), Urology (Young), Diet, Therapeutics.

If there are any other doctors, readers of the JOURNAL, who have anything on this list that they would like to contribute, we should be glad to receive them.

Very truly yours,

ROY M. CUSHMAN.

NOTE.—In further response to the appeal a copy of "Human Anatomy" (Morris) has been sent to the Boston Metropolitan Chapter of the Red Cross.

DIPHTHERIA AFTER TONSILLECTOMY

Editor of THE NEW ENGLAND JOURNAL OF MEDICINE:
Boston, Mass.

Will you kindly print following case article in your journal as I believe it is of great interest.

CASE: Boy, 7 years of age, was brought to my office for examination which disclosed large infected tonsils and a great deal of adenoid tissue. Tonsillectomy was advised. Boy was seen three days and morning before operation. He was in fine condition for the operation. Tonsillectomy was done by me and three days later I was called to see the patient. He had a marked bilateral submaxillary adenitis with a temperature of 101.2° and a slightly increased pulse; respirations normal, chest and lungs were negative. Examination of throat showed scar healing of tonsillectomy with fossae free of all tonsillar tissue. To satisfy myself, I took a swab of his tonsillar fossae which came back with a diagnosis

of positive for diphtheria. Anti-toxin was given and the boy made an uneventful recovery.

The point I wish to stress is the advisability in taking a swab of fossae following tonsillectomy when complications develop. It is the only way to make sure that the healing scar tissue of tonsillectomy is not the membrane of diphtheria.

Truly yours,

HYMAN S. QUEEN, M.D.

NEWS ITEMS

PERSONAL ITEMS—Dr. John B. Thomes, of Pittsfield, has left the hospital, where he spent eleven weeks recovering from severe fractures of the pelvis. He is now at his home.

Dr. Thomas P. Hennelly, of Pittsfield, is under treatment in St. Vincent's Hospital in Worcester.

Dr. George H. Thompson, of North Adams, has returned from a month of post-graduate work, and has resumed his practice.

Doctor and Mrs. George S. Reynolds, of Pittsfield, are the parents of twin daughters. Dr. Reynolds was formerly connected with the Massachusetts General Hospital.

THE APPOINTMENT OF DR. CLIFFORD L. DERICK—Clifford L. Derick, M.D., Medical School of McGill University, 1918, has been appointed physician to the Peter Bent Brigham Hospital, Boston, Massachusetts, to succeed Dr. Cyrus C. Sturgis, recently appointed Professor of Medicine at the University of Michigan. Dr. Derick served first for three years at the Montreal General Hospital, then as a National Research Council Fellow and subsequently as Assistant Resident Physician at the Peter Bent Brigham Hospital. Since July 1, 1924, he has been Assistant Resident Physician at the Rockefeller Hospital, New York City.

NOTICES

UNITED STATES PUBLIC HEALTH SERVICE

CHRONOLOGICAL LIST OF CHANGES OF DUTIES AND STATIONS OF COMMISSIONED AND OTHER OFFICERS OF THE UNITED STATES PUBLIC HEALTH SERVICE

MARCH 7, 1928

A. A. Surgeon C. J. Martin. Relieved from further duty at Roma, Texas, effective March 1. February 27, 1928.

Surgeon G. C. Lake. Directed to proceed from Stapleton, N. Y., to Washington, D. C., and return, for conference at the Bureau in connection with the investigation and control of venereal diseases. March 1, 1928.

Surgeon L. E. Hooper. Directed to proceed to the vicinity of Galveston and Houston, Texas, for the purpose of investigating the use of gas heaters and whether their use is resulting in deleterious effects on health. March 2, 1928.

Consultant D. D. Kimball. Directed to proceed from New York, N. Y., to Washington, D. C., and return, in connection with ventilation studies. March 2, 1928.

Consultant C. E. A. Winslow. Directed to proceed from New Haven, Conn., to Washington, D. C., and return, in connection with ventilation studies. March 2, 1928.

A. A. Surgeon O. C. Wenger. Directed to proceed to Waco, Texas, and return, for the purpose of attending the Texas Conference of Social Welfare to be held in that city March 26-28. March 2, 1928.

A. A. Surgeon W. G. Nelson. Authorized to proceed from Chelsea, Mass., to New York, N. Y., and report to U. S. P. & I. Agency, Inc., to testify in behalf of the United States in a trial suit for damages. March 3, 1928.

Surgeon Joseph Goldberger. Directed to proceed from Washington, D. C., to Milledgeville, Ga., and return, in connection with studies of nutrition. March 5, 1928.

Assistant Surgeon General F. C. Smith. Directed to proceed from Washington, D. C., to Philadelphia, Pa., and return, to confer with the Medical Officer in Charge, U. S. Public Health Service Relief Station. March 5, 1928.

Assistant Surgeon General R. C. Williams. Directed to proceed from Washington, D. C., to New York City, and return, for the purpose of attending the conference of the New York Academy of Medicine, March 22, to consider the adoption of a uniform nomenclature of diseases. March 6, 1928.

Statistician Edgar Sydenstricker. Directed to proceed from Washington, D. C., to New York, N. Y., for the purpose of attending the conference of the New York Academy of Medicine, March 22, to consider the adoption of a uniform nomenclature of diseases. March 6. 1928.

BOARDS CONVENED

Board convened to make physical examination of technical assistant in sanitary engineering, at call of chairman, in New York, N. Y.

Detail for the Board:

Senior Surgeon C. H. Lavinder.

Assistant Surgeon General (R) W. S. Terriberry.

Official:

H. S. CUMMING, *Surgeon General.*

NEW YORK PHYSICIANS' ART EXHIBIT

The Second Annual New York Physicians' Art Exhibit will open at the Academy of Medicine, Fifth Avenue and 103rd Street, New York City, on April 1, 1928. Any physician is eligible to contribute original work in painting, sculpture, drawing, etching, etc. Contributions must be sent to the New York Physicians' Art Exhibit Committee, Care of Superintendent, New York Academy of Medicine, 103rd Street and Fifth Avenue, New York City, not later than March 21, 1928. Each piece should be labelled (on the back) with title and name and address of contributor. Duplicates of these labels are then to be sent by mail to the Committee at the above address, before March 21.

The New York Physicians' Art Club, under whose auspices this exhibit is given, particularly invites out-of-town physicians to participate in this exhibition.

All correspondence should be addressed to Dr. Henry A. Bancel, 1 West Sixty-eighth Street, New York City.

REPORTS AND NOTICES OF MEETINGS

HARVARD MEDICAL SOCIETY

The Harvard Medical Society held a meeting at the Peter Bent Brigham Hospital on February 28, 1928, at 8:15 o'clock. After the presentation of cases Dr. Arlie V. Bock spoke on "The Physiology of Mus-

cular Exercise." Dr. W. B. Cannon introduced the speaker.

The first case was presented by Dr. Menard. The patient was a 45 year old Irish housemaid, whose chief point of interest was cyanosis. Family history was negative except that a sister and a cousin had cyanosis. Past history showed that she had pneumonia twice, thyroidectomy two years ago, and removal of ovarian tumor last December, after which she developed a pulmonary infarct. The patient has had the cyanosis for 32 years with no symptoms. Physical examination was essentially negative except for the cyanosis of mucous membranes, fingernails, fingers, and toes. The heart was slightly enlarged with a systolic murmur at the apex. The urine, stool, and Wassermann were negative, as was an X-ray of the chest. Blood nitrites were negative and the saliva showed a diminished nitrate content. On culture the saliva yielded an organism whose characteristics had not been determined. Dr. Christian characterized the case as enterogenous cyanosis so-called because many of these cases occur after intestinal disturbances. The cases divide themselves into two groups, those with sulph-emoglobin and those with methemoglobin in the blood. Methemoglobinemia is supposed to originate from absorbed nitrites, but they could not be demonstrated in the blood serum in this case. The other remarkable thing about the case was the apparent familial relationship.

The second case was presented by Dr. Ormond. The patient was a 40 year old automobile mechanic who entered the hospital a month and a half ago complaining of mid-epigastric pain of two weeks' duration. Family history and past history were negative except for typhoid fever 26 years ago. Two weeks before entry he was suddenly seized with a mid-epigastric pain which was not relieved by vomiting. After three days the pain centred about one inch to the right of the umbilicus. A week later he was sent in from the Out-Patient Department where he had applied for relief from the pain. Examination on entry showed right rectus spasm, temperature 102°, pulse 100, and white count 17000. On operation Dr. Cheever opened into an abscess cavity from which was obtained about 40 cc. of purulent material and what was thought to be a gallstone. Three weeks after operation intravenous cholcystograms were done revealing a normal gall-bladder. Second operation exposed a sinus tract leading from the scar of the first operation to the hepatic flexure of the colon. The base of the appendix was found here, removed, and the wound drained. Convalescence has been uneventful. The object obtained in the first operation consisted of some plant hairs and fibers, and muscle fibers, undoubtedly being a fecolith.

Dr. Bock outlined his work as beginning in the latter part of 1924. Since then, four series have been done using four different subjects, ranging from an untrained man with a vital capacity of 3800 cc., to Clarence DeMar, the runner, whose vital capacity was 5500 cc. The methods used were the ordinary ones of the laboratory such as blood pressure, pulse, and Van Slyke gas analysis, and a few new kinds of apparatus as occasion demanded. The basis for comparison was the oxygen consumption, and the results as far as possible were plotted against these figures.

A great variance and difference in the results between the trained and untrained man were seen. On moderate work the pulse in DeMar rose from around 60 to 115, while in the untrained man the pulse rate increased to 160. The output of the heart per systole increased, but that of DeMar only 30%, while that of the untrained man increased 110%. In the same subject the systolic blood pressure rose to 175 mm., and in DeMar, who was doing double the amount of work, showed a systolic pressure of 160 mm. The measurement of the amount of oxygen left in the venous blood after work showed a similar contrast. It was shown that a point was reached where no more oxygen can be taken from the blood. Any increase of oxygen to the tissues must be obtained by an increase in pulse rate or by a larger systolic output. A third compensatory phenomenon was shown to be acidosis which enabled a greater washing out of oxygen from the blood to take place.

In the untrained man as the amount of lactic acid increased, the CO_2 in the blood decreased; no comparable change was shown in DeMar. As the bicarbonate of the blood increased, the CO_2 volume per cent. decreased, accompanied by a drop in ph. In regards to tidal air, while DeMar breathed faster, he had a small tidal air volume in comparison to the other subjects. A study of the R.Q. showed that the body soon reaches a level of work, usually in about five minutes. The taking of food had no influence on the R.Q. In the untrained man the level of work was reached sooner.

Dr. Bock then offered an explanation for these results. It has been shown that glycogen is the sole source of muscular energy. During moderate work the transformation of fat is going on to keep the R.Q. low. If heavy work is done, then little fat can be utilized, glycogen is used almost entirely, and the R.Q. tends to approach one. DeMar works better not only because of increased space for diffusion in his lungs, the better heart action, etc., but the muscle cells are able to take care of the products of increased metabolism without loosing them into the circulation causing fatigue.

In summary, Dr. Bock emphasized the point that in comparing this work to that of others, one must note that this work was done at a steady rate, each reading being for twenty minutes or more, and a stationary bicycle was used. The experiments show that almost all functions of the body which can be measured show remarkable changes in response to training, though we do not know what part the endocrine glands and the nervous system have upon the mechanism.

In the interesting discussion which followed, Dr. Cannon pointed out that the spleen normally contains about twice as many red blood cells as the circulating blood. As shown by experiment, during excitement or in work the spleen contracts causing a 20% increase of red blood cells in the circulating blood.

LECTURE BY DR. ABRAHAM MYERSON

Dr. Abraham Myerson, Professor of Neurology at Tufts Medical School, gave a lecture entitled, "Psychiatry and Law" under the auspices of the Phillips Brooks Association on Thursday, February 16, 1928, at the Harvard Medical School.

Psychiatry, Dr. Myerson explained, was begotten by law. Since law recognized insanity as an excuse for evading responsibility for a crime, a criterion of sanity was adopted and psychiatry established to define this basis. Essentially crime is the behavior of a person which has not the social sanction of a given time. For instance, murder is commonly a crime, but in war and in communities where it is the accepted procedure for the righting of a private wrong, it is permissible. The application of law in dealing with the criminal has passed through three changes. At first the law considered all people essentially bad, immoral with tendencies to follow egotistic impulses without regard to law. German Socialists and Rousseau initiated the movement to consider crime as the result of environment. Finally, Lombroso suggested the study of the criminal and not the crime contending that criminals are abnormal and may be classified as epileptic or atavistic. His theory has not been proved satisfactory and yet the general underlying principle is fundamentally correct. Since the law has merely substituted public for private

vengeance and psychiatry has instituted the study of the criminal, the first conflict is obvious.

Murder is the chief example which brings together phychiatry and law. Since law is a fight and medicine an art founded on the sciences, the psychiatrist has not figured to advantage when the two are brought together. To obviate this a law has been passed in Massachusetts requiring two psychiatrists to be appointed by the Commissioner of Mental Diseases who shall examine the defendant before the trial to determine his mental condition. There are two kinds of murders, first, those perpetrated in connection with another crime and second, those done by insane people which call for expert analysis. Insane people are more prone to commit murder than any crime. Here the application of psychiatry and law is conflicting. Psychiatry may affirm that the defendant is sane, but irresponsible. The law contends that if the defendant is sane, he is responsible. Again, the law believes in the irresistible impulse, while psychiatry upholds no such premise for any momentary lack of will, for example.

Finally, the murder rate, contrary to the general belief, is highest where the alien rate is lowest. Criminals have two main characteristics. Not only are they people with little public interest, but they are unorganized extroverts, that is, lacking in organized purpose which is the result of social training and lack of education.

The meeting was well attended and of unusual interest, not only because Dr. Myerson had formerly been connected with the Harvard Medical School, but also because of the many illustrations which made his arguments clear.

THE NORFOLK DISTRICT MEDICAL SOCIETY

A regular meeting of the Norfolk District Medical Society will be held in the Norwood Hospital March 27, 1928, at 8 o'clock P. M. Telephone Norwood 0470.

Communications:

Trichinosis, Dr. H. B. C. Riemer.

Sarcomata in Children, Dr. A. S. Hartwell.

Chronic Laryngeal Stenosis, Dr. Leighton F. Johnson.

This meeting has been arranged by our members in the outlying districts and has been very carefully planned to provide for us an interesting and pleasant evening. It is hoped all will make an endeavor to attend.

Previous to the meeting and beginning at 7:30 P. M., groups will be conducted about the hospital for the purpose of inspection of the institution.

Opportunity for discussion of the papers will be given and there will be a collation after adjournment.

FRANK S. CRUICKSHANK,
Secretary.

23 Bay State Road, Boston.

HARVARD MEDICAL SOCIETY

The next regular meeting of the Harvard Medical Society will be held as usual in the amphitheatre of the Peter Bent Brigham Hospital, Tuesday evening, March 27th, at 8:15 P. M. The program follows:

Presentation of cases.

The clinical significance of abnormal blood pressures. Sir Humphry Rolleston, Regius Professor of Medicine at Cambridge University, Physician-in-Chief, Pro tempore, P. B. B. H.

PERCIVAL BAILEY, *Secretary.*

BOSTON CITY HOSPITAL CLINICAL MEETING MARCH 31, 1928—11 A. M.

PROGRAM

1. Dr. George W. Papen. "A Case of Total Subperiosteal Resection of the Tibia with Complete Regeneration within Six Months."
2. Dr. Frank Fremont-Smith. "Spinal Fluid in Meningitis."
3. Dr. Thomas K. Richards. "One Case of Disease of the Knee Joint."
4. Dr. Townsend W. Thorndike. "Report of a Case of Dermatitis Congelation with Complete Destruction of Tissues. Demonstration of a Case of Gummatous Infiltration of Both Testicles."
5. Dr. Augustus Riley. "Pyelographic Studies as an Essential Aid in Diagnosis Made in the Out-Patient Department."
6. Dr. George P. Sanborn. "Effect of Swift-Ellis Treatment upon the Spinal Fluid in Neurosyphilis."
7. Dr. John A. Foley. "Ambulatory Treatment of Gastric Ulcer."
8. Dr. William R. Morrison. "Series of Perforated Ulcers of the Stomach and Duodenum Operated on under Novocain Local Anesthesia with Posterior astro-Enterostomy and Closure of the Abdomen without Drainage."
9. Dr. Charles C. Lund. "Relation of the Basal Metabolism to the Action of Morphine."
10. Dr. Louis J. Dillian. "Basal Metabolism in Icythyosis. A Severe Diabetic with Abscesses at Site of Insulin Injection."
11. Dr. Percy B. Davidson. "Ulcer of Esophagus."

HARTFORD COUNTY MEDICAL SOCIETY NEW ENGLAND HEART ASSOCIATION

APRIL 3, 1928

Hunt Memorial Library
38 Prospect Street, Hartford, Conn.

4:00 P. M. CLINIC

1. Heart Disease and Hypertension. Dr. William H. Robey, Boston.
2. Heart Disease and Pregnancy. Dr. Burton E. Hamilton, Boston.
3. Heart Disease in Children. Dr. Hyman Green, Boston.

8:00 P. M.

1. The Heart in Anaesthesia and Surgery. Dr. H. M. Marvin, New Haven.
2. The Present Status of Cervical Sympathectomy. Dr. Samuel A. Levine, Boston.
3. Paravertebral Alcohol Injections in Angina Pectoris. Dr. Paul D. White, Boston.

MEETING OF THE NEW ENGLAND SECTION OF THE AMERICAN ACADEMY OF PHYSIOTHERAPY

The New England Section of the American Academy of Physiotherapy will hold a meeting on Thursday, March 29, at 8:15 P. M. at John Ware Hall, Boston Medical Library.

Subject: "Ultra Violet Irradiation," by Frank B. Granger, M.D.

Discussion to be opened by Edwin T. Wyman, M.D.

The medical profession is cordially invited.

BOSTON MEDICAL HISTORY CLUB

A meeting will be held on Friday, March 23rd, 1928, at the Boston Medical Library at 8:15 P. M.

PROGRAM

1. An Obituary Sketch of Dr. John W. Elliott. Dr. E. A. Codman.
2. The Influence of Galen on Harvey. Dr. Isador Coriat.

HENRY R. VIETS, *Secretary.*

THE NORFOLK DISTRICT MEDICAL SOCIETY

23 Bay State Road, March 18.

The Censors of the Norfolk District Medical Society will meet for the examination of candidates May 3rd, 1928, in the Roxbury Masonic Temple, 171 Warren Street, Roxbury, at 4 P. M.

Applications together with certificate of graduation from Dean of School must be in the hands of the Secretary at least one week previous to date of examination.

FRANK S. CRUICKSHANK, M.D., *Secretary.*
23 Bay State Road, Boston.

SOCIETY MEETINGS

March 23—Boston Medical History Club. Complete notice appears on page 271.

March 27—Harvard Medical Society. Detailed notice appears on page 270.

March 29—Meeting of the New England Section of the American Academy of Physiotherapy. Detailed notice appears on page 270.

March 30 and 31—Second Annual Conference on Public Health. Complete notice appears on page 224, issue of March 15.

March 31—Boston City Hospital Clinical Meeting. Complete notice appears on page 270.

April 3—Hartford County Medical Society and the New England Heart Association. Complete notice appears on page 270.

June 18-22—Convention of the Catholic Hospital Association. Complete notice appears on page 1597, issue of February 16.

DISTRICT MEDICAL SOCIETIES

Essex North District Medical Society

May 2, 1928 (Wednesday)—Annual meeting at Haverhill, 12:30 P. M., at the Haverhill Country Club, Brickett Hill, Gile Street, Haverhill.

May 3, 1928 (Thursday)—Censors meet for examination of candidates at Hotel Bartlett, 95 Main Street, Haverhill, at 2 P. M. Candidates should apply to the Secretary, J. Forrest Burnham, M.D., 567 Haverhill Street, Lawrence, at least one week prior.

Essex South District Medical Society

April 11 (Wednesday)—Essex Sanatorium, Middleton. Clinic at 5 P. M. Dinner at 7 P. M.

Dr. Raymond S. Titus, "Obstetrical Emergencies." Discussion by Drs. J. J. Egan of Gloucester and A. T. Hawes of Lynn, 10 minutes each, and from the floor.

May 3 (Thursday)—Censors meet at Salem Hospital for the examination of candidates at 3:30 P. M. Candidates should apply to the Secretary, Dr. R. E. Stone, Beverly, at least one week prior.

May 8 (Tuesday)—Annual meeting. Detailed notice appears on page 1437, issue of January 26.

Norfolk District Medical Society

March 27—See page 270 for complete notice.

May 3—Censors' meeting. Roxbury Masonic Temple, 4 P. M. Applications will be mailed by the Secretary upon request. Detailed notice appears on page 271.

May 8—Annual meeting. Details to be announced.

Suffolk District Medical Society

Combined meetings of the Suffolk District Medical Society and the Boston Medical Library will be held at the Boston Medical Library, 8 The Fenway, at 8:15 P. M., as follows:

March 28—Medical Section. "The Use and Misuse of Vaccines." Dr. Hans Zinsser, Dr. Francis M. Rackemann, Dr. Charles H. Lawrence.

April 25—Annual meeting. Election of officers. Prof. Julius Bauer, Professor of Medicine in the University of Vienna, and Physician-in-Chief to the Polyclinic, will deliver an address. His subject will be announced later.

The medical profession is cordially invited to attend these meetings.

Notices of meetings must reach the JOURNAL office on the Friday preceding the date of issue in which they are to appear.

BOOK REVIEWS

Tonic Hardening of the Colon. By T. STACEY WILSON. London: Oxford University Press. 1927. Pages, 210.

From a reading of the 210 pages of this book, the impression is gained that its author is an educated man, an able psychologist, and a keen clinician who has doubtless immensely benefited many of the intestinal invalids with whom he has come in contact. Furthermore, he seems fortunate in having been able to produce rapid and satisfactory results in a difficult type of case, depending for his cures mostly upon three factors: simple diet, intestinal antisepsis by salol, and the control of spasm by tincture of hyocyamus.

The book is worth reading on account of its many clinical histories which illustrate the extraordinary complexity of the symptoms which may afflict the patient who suffers from a combination of intestinal and mental difficulties. Viewed thus, the book is of distinct interest to all clinicians who come in contact with patients complaining of both abdominal and mental symptoms.

It is another matter when one tries to follow the author's line of reasoning in his attempt to connect his clinical experiences with the science of physiology, by way of the very specialized process of "tonic hardening of the colon". There would have been less to be said about it, had he been satisfied with the title of "Spasm of the Colon". Such a title states a clinical observation, without going into its causation.

The author has, however, chosen to give his book a title which immediately raises the question of whether or not his thesis has been proven by the contents of the book. To this, the reader is likely to reply that it has not been proven. Clinically speaking, the book is interesting. Scientifically speaking, it is unsatisfactory. About two-thirds of the book is given over to the setting forth of a mass of opinions and probabilities. Some forty pages out of the total of 196, are devoted to physiological considerations. The reader will however find frequent gaps in logic which, if he be somewhat scientifically trained, may prove difficult of jumping.

After carefully defining what he means by "tonic hardening of the colon", this designation being correctly connected with the static or postural muscular activity first recognized by Sherrington, the author proceeds to use this very specialized term interchangeably with the looser expression of "spasm of the colon", and with the even looser expression of "colon disturbance".

This interchangeable use of these terms may be

illustrated by a few quotations from the last chapter of the book, which is entitled "Aphorisms". For example: "In general, when, in a dyspeptic patient, the colon is tender and abnormally hard on palpation, reserve a definite diagnosis until treatment has lessened the colon disturbance."

"If mental inertia or physical lassitude occurs unexpectedly during working hours; suspect a colon origin."

"Abdominal pain which is brought on or increased by exertion after meals is almost certainly due to tonic colon hardening."

"If a patient is liable to wake between midnight and 4 A. M., suffering from some form of mental misery, the cause is almost certainly tonic colon hardening . . ."

"If mental symptoms of any kind occur as the result of physical exertion, or are due to the vibration of a shaky vehicle; suspect tonic colon hardening."

"The sudden onset of mental symptoms such as depression, obsessions, etc., in a patient previously free from them is suggestive of the onset of tonic colon hardening."

The above specimen statements from the chapter in the book which would seem to correspond to the one devoted in a strictly scientific publication to a summary of the whole, give an idea of the unsupported statements which appear throughout the book. They may be true, but they are "not proven".

To the reviewer, it seems distinctly unfortunate that the author could not have been satisfied with an entertaining presentation of his actual experiences with a difficult type of gastro-intestinal patient. As it is, the book is more or less ruined by the author's attempt to prove these clinical observations dependent upon such a specialized form of physiologic activity of the intestinal musculature, as "tonic hardening of the colon".

Food Infections and Food Intoxications. By Samuel R. Damon. The Williams & Wilkins Company, Baltimore, Md. pp. 264, price $4.

This book contains a great deal of information about infections, intoxications, and parasitic diseases acquired from food, that has not been collected previously in a single volume. In part one, paratyphoid, tuberculosis, undulant fever, septic sore throat, and actinomycosis are described. Part two includes information about botulism, mushroom poisoning, grain intoxications, milk sickness, potato poisoning, and disturbances derived from fish and shell-fish. And part three gives a special account of trichinosis, taeniasis, and helminth infestation, and general observations on other parasitic diseases. Each subject is treated succinctly though thoroughly. For instance, in the description of trichinosis, the historical aspect of the disease is first taken up, then the occurrence of the infection in lower animals and the life history of the parasite; later the symptomatology, the laboratory diagnosis, differential diagnosis, pathology, and mortality; and finally the treatment and prophylaxis are given. The arrangement of the book is excellent, a moderate number of illustrations aid in understanding the subjects, and very complete references are listed. The index is not very full, but a more complete one is unnecessary in a book written in such an orderly way. The book should find a place in all medical libraries and should prove a valuable reference book for food chemists, physicians, and nutrition experts.

Nutrition and Diet in Health and Disease. By James S. McLester, M.D. Philadelphia: W. B. Saunders Company. 1927. Pages, 783.

In a well presented book of 783 pages, the author offers one of the latest of the large and growing family of encyclopedic text books on diet. The book has the virtues and otherwise of all books of this character, but, being one of the latest, it is at least for the moment, one of the best available.

Much of the total space is given over to routine diets, and to the reprinting of many tables and charts taken from other books.

The chief disadvantage of this book is inherent in its encyclopedic nature. Already, there are thousands and thousands of pages available upon diet, most of which tend toward the parrot or pigeonhole system of fitting the patient to a special diet, rather than toward the perhaps more intellectual and logical system of teaching principles, upon the basis of a knowledge of which, a diet for the individual or special patient may easily be evolved.

The presence of occasional typographical errors, such as "proceded" for "preceued", and "heeping" for "heaping", both on page 652, and the occasional occurrence of direct clinical statements by the author which are perhaps open to question, do not greatly detract from the very real value which this book should have for the worker somewhat removed from easy access to specialized literature on diet, the worker who seeks conscientiously to benefit his patient by the most intelligent possible application to each case, of the most recent information concerning the fundamental, much talked of, but for the most part poorly applied subject of diet.

Medical Insurance Examinations.

A textbook valuable for insurance practice, particularly in the Dominion of South Africa, for which it is written. It is a plea for modified ratings in order that sub-standard lives may be insured at some increase over the normal rates.

This book is of interest to the general profession in giving them a point of view of which most of us know too little; namely, the evaluation of the effects of disease on the probable life of our patients.

Ophthalmoscopy, Retinoscopy and Refraction. By W. A. Fisher, M.D., F.A.C.S., Chicago, Ill. Second Revised and Enlarged Edition, with 260 Illustrations, Including 48 Colored Plates. F. A. Davis Company, Publishers, Philadelphia, 1927.

The author states in the preface of the volume that ophthalmoscopy and the fitting of glasses belong to the general practitioner. The purpose of the volume is to teach this to the general man. The book is adequately illustrated and is a perfectly good textbook, although the reviewer believes that such subjects as glaucoma are made very much too simple with the danger of giving a false sense of security in their treatment. The reviewer does not believe that the general practitioner can acquire sufficient knowledge from a book of this sort to enable him to practice ophthalmology to the extent suggested by the author.